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TM5-9118

U.S. Army

**WAR DEPARTMENT
MAINTENANCE MANUAL
AND PARTS CATALOG**

**SWEeper, ROTARY BROOM, TRACTOR MOUNTED AND
POWERED, ONE WAY SWEEPING, 30 IN. X 6 FT.
BRUSH, HOUGH MODEL - M**

THE FRANK G. HOUGH CO.

LIBERTYVILLE, ILL.

AUG. 30, 1943

TM5-9118

WAR DEPARTMENT

TM5-9118, Maintenance Manual and Parts Catalog, Sweeper, Rotary Broom, Tractor Mounted and Powered One Way Sweeping, 30 in. x 6 Ft. Brush, Hough Model - M, published by the Frank G. Hough Co., is furnished for the information and guidance of all concerned.

(AG 062.11 (4/26/41) PC (C), June 10, 1941.)

By order of the Secretary of War:

**G. C. MARSHAL,
Chief of Staff.**

Official:

**J. A. ULIO,
Major General,
The Adjutant General.**

Combined
**OPERATOR'S MANUAL
MAINTENANCE MANUAL**
and
SPARE PARTS LIST

for
**HOUGH MODEL M
TRACTOR SWEEPER**

on
Case Model "VI" TRACTOR
and
Brush Filling Machine

Manufactured for
CORPS OF ENGINEERS

by
THE FRANK G. HOUGH CO.
Libertyville, Illinois

This Book Covers:

**War Department Purchase Order
C-4013 Serial Nos. 1233 - 1263**

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1943 Page

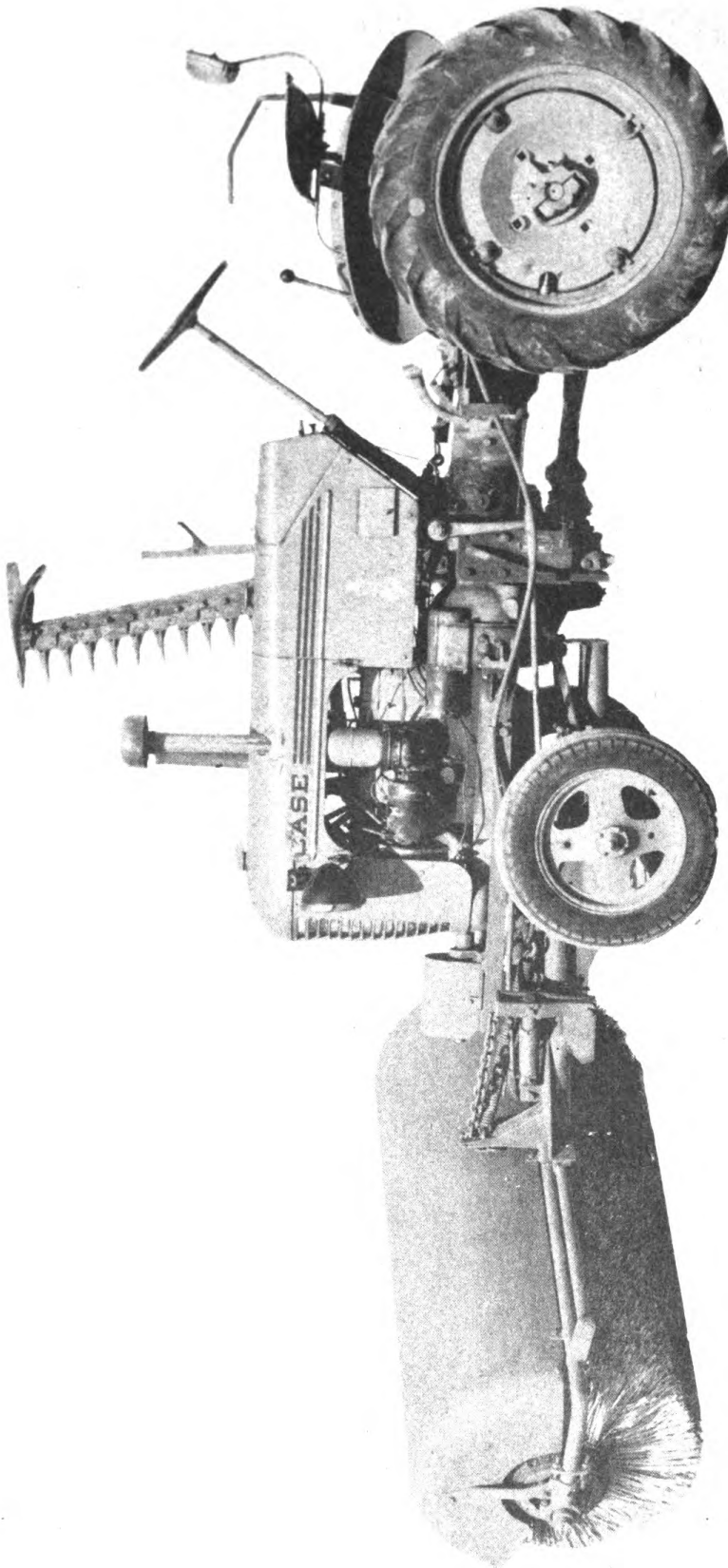
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SECTION I

OPERATION

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SWEEPER MOUNTED
ON
CASE VI TRACTOR

DESCRIPTION

This sweeper is designed to fit on a Case Model "VI" Tractor. Another sweeper is available for mounting on a Case Model "VAI" Tractor; they are not interchangeable. Notify Supply Officer if wrong sweeper has been furnished. The sweeper has a rotary brush, driven off the front end of the tractor crankshaft and sweeps to the right hand side of the tractor.

The sweeper being narrow and being mounted on a tractor having good maneuverability, it is possible to sweep sidewalks, platforms, streets, runways and aprons with a minimum of effort and time.

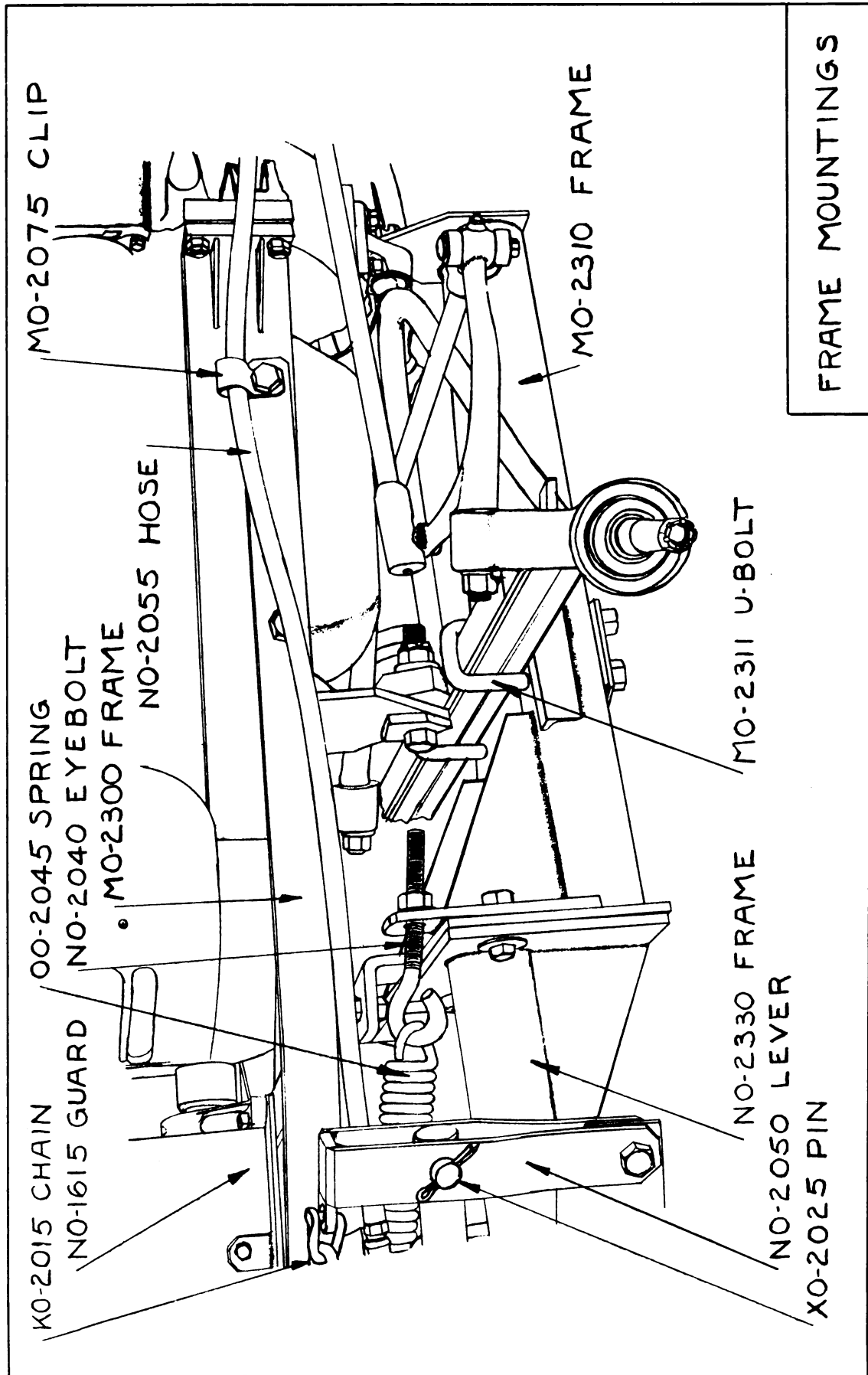
The brush fibre used permits sweeping snow, sand or other material with equal thoroughness. Provision is made to adjust the brush to insure uniform wear and maximum fibre life.

Control of the brush height is accomplished by means of a hydraulic lift mechanism operated by the driver of the tractor from the seat.

To avoid injury to the brush drive mechanism that might be caused by engaging the clutch at high tractor speeds or with a heavy load on the brush, the design requires that the clutch be engaged or disengaged with the motor stopped.

The sweeper being mounted entirely on the front of the tractor permits using a mower or similar device at the rear. Likewise, the tractor is available for drawbar work at all times without disturbing the sweeper.

When shipment is made, two extra rotary brushes are furnished with each sweeper.



INSTALLATION ON CASE "VI" TRACTOR

The sweeper as shipped is partially "knocked-down", both to conserve space and to facilitate mounting to tractor.

PREPARING TRACTOR

- 1) Remove radiator grille, radiator and hood.
- 2) Remove tractor fan pulley.
- 3) Remove nut from pivot end of radius rod.

(Note: Follow instructions in Case "VI" tractor manual for removing parts mentioned above)

MOUNTING UPPER FRAME

Remove the four mounting bolts from the legs of the upper PTO support frame MO-2300. With legs straddling the radiator support casting, bolt frame to tractor engine frame. This frame MO-2300 is attached by inserting four mounting bolts through the holes in the legs and then through the square holes in the side of the tractor engine support frame. Before inserting the rear side bolt on the left hand side, slip hose clamp MO-2075 over bolt with hose NO-2055 in clamp and so that the hose runs in a horizontal plane above bolt. Tighten all four bolts.

MOUNTING LOWER TUBULAR ADAPTER FRAME

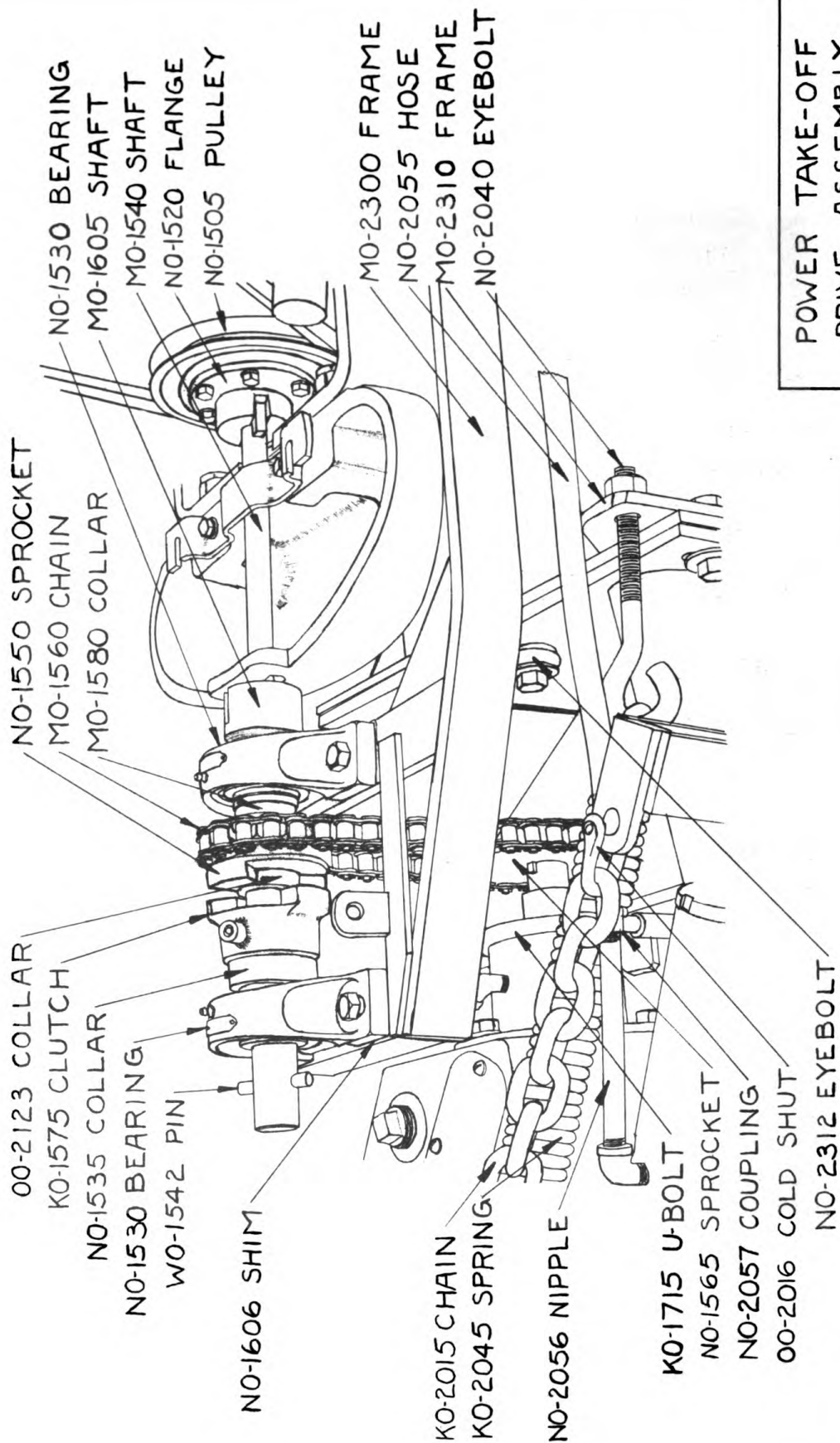
1) Remove the two "U" bolts from frame MO-2310 and slide frame under front of tractor with narrow end of frame towards rear of tractor.

2) Raise the rear end of frame MO-2310 and slide forward with rear frame hanger over the pivot end of the tractor radius rod. Replace nut on pivot end of radius rod.

3) Now lift up the front end of frame MO-2310 against the front axle of the tractor. Slip the two "U" bolts MO-2311 over the tractor front axle and through the tubular members of the frame MO-2310. Screw nuts on "U" bolts but do not tighten. Shift frame MO-2310 to right or left until the center hole in the front plate is on the center line of the tractor. Tighten "U" bolt MO-2311 nuts securely.

ATTACHING BRUSH AND BRUSH PIVOT FRAME ASSEMBLY

Remove bolts from face plate of frame NO-2330. Bring the brush, brush support frame, and brush pivot frame NO-2330 against frame MO-2310 and bolt in place loosely with the two outer bolts. Insert eyebolt NO-2312 through the bracket on frame MO-2310, slip eye over pipe lug on plate of frame NO-2330, assemble with one nut above and one nut below bracket.



POWER TAKE-OFF
DRIVE ASSEMBLY

POWER TAKE-OFF DRIVE

1) A special fan pulley NO-1505 is furnished with sweeper. When shipped flange NO-1520 is coupled to pulley NO-1505 by means of six capscrews. Remove flange NO-1520 from NO-1505 and mount pulley NO-1505 on tractor crankshaft using original nut on end of tractor crankshaft. Replace tractor fan drive belt. Flange NO-1520 should now be recoupled to pulley NO-1505 using the same capscrews which were removed to permit mounting of the pulley.

2) Slide power take-off (PTO) shaft MO-1540 through slotted hole in the tractor radiator support casting until tongue engages in the slotted hub of flange NO-1520.

3) The upper clutch and sprocket shaft MO-1605 is shipped with clutch, bearings NO-1530 and shims NO-1606 assembled together. Because of slight variations in the radiator support casting, it is necessary to use shims NO-1606 under bearings NO-1530. Place one shim NO-1606 under each bearing NO-1530 and mount clutch shaft assembly on frame MO-2300 with the slotted head of shaft MO-1605 engaged with tongue of shaft MO-1540. Check clearance of shaft MO-1540 where it passes through the slotted hole in the tractor radiator support casting, then either add or remove a shim NO-1606 to give shaft MO-1540 clearance where it passes through the radiator support casting. Tighten the four bolts securely.

4) Power take-off shaft MO-1540 should have approximately 1/16" end play. This can be obtained by loosening the bolts holding bearings NO-1530 to frame MO-2300 and shifting entire clutch assembly as necessary.

BRUSH LIFT ASSEMBLY

1) Assemble the oil pump handle KO-2065-1 to oil pump KO-2065 using the cotter key furnished to retain the handle.

2) Remove the two rear most capscrews from the left hand side of the floor plate. Using the two 5/8 x 1" hex head capscrews furnished with sweeper, mount oil pump KO-2065 and bracket MO-2066 assembly, with handle end of pump to rear of tractor, at these two holes.

3) Remove pin XO-2025 from end of ram 60-2020. Slide ram 60-2020 shaft between legs of lever NO-2050 and insert pin XO-2025. Insert cotter and spread.

4) Remove plug from end of coupling NO-2057 and attach hose NO-2055 to coupling NO-2057. Connect other end of hose to union 00-2071, which is in the base of pump KO-2065 and pointed forward. The bolt holding hose clip NO-2075 should now be tightened.

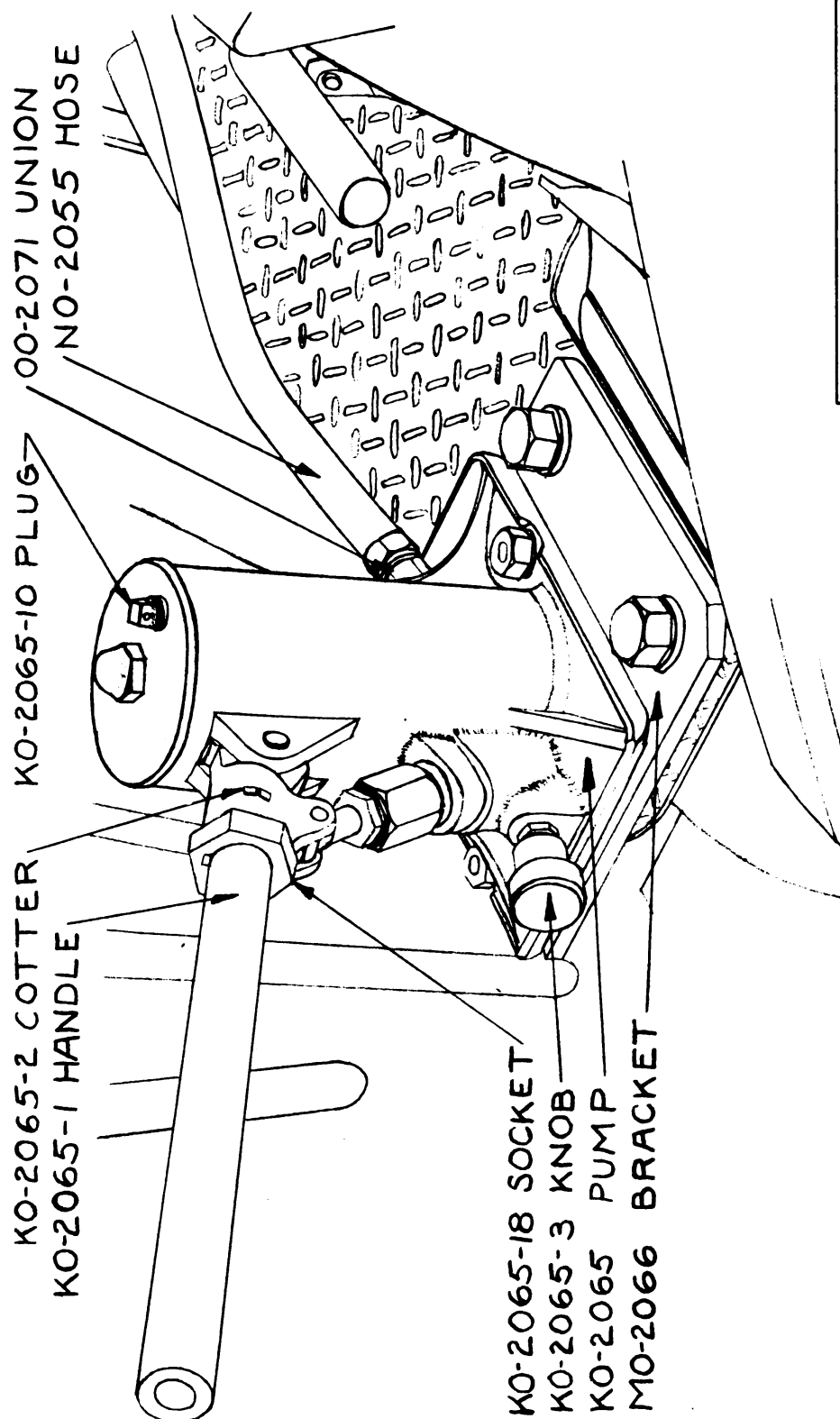
5) Hook the brush counterbalance spring 00-2045 into the eye of the lift arm casting on frame NO-2100. Insert the spring eyebolt NO-2040 into the other end of spring 00-2045 and into the bracket at the upper left hand corner of frame MO-2310. Adjust spring tension so that the brush almost floats on the ground.

6) Remove the bolt in the lift arm casting on frame NO-2100. It is directly above the eye into which the brush tension spring was hooked in the preceding step. With brush floating on ground and ram 60-2020 in released position, pull chain KO-2015 toward lift arm casting. Allow from one-half to one and one-half links slack and place chain in the vertical slot at the top of the lift arm casting. Reinsert bolt and tighten. The chain serves a two-fold purpose; first, to raise the brush; second, to act as a stop to prevent the brush from sucking under.

7) The bleeder screw in the lift ram should now be removed, care must be taken not to lose the gasket under the screw head. Fill the pump by removing breather and filler plug KO-2065-10 with SAE #10 oil and pump the air out of the system. On export shipments, a quart can of SAE #10 oil is included with sweeper. The air is out of the system when oil comes out of the ram bleeder screw hole. When it does, replace screw and gasket, refill pump and replace filler plug KO-2065-10 in pump.

INSTALLATION OF TRANSFER DRIVE

1) Close valve in pump KO-2065 by turning knob KO-2065-3 to the right until tight. Raise the brush off the ground by actuating handle KO-2065-1 up and down until brush is clear of ground.



PUMP MOUNTING

2) Install the transfer drive chain MO-1560 over the upper clutch sprocket NO-1550 and around the lower gearcase drive sprocket NO-1565. Adjust chain slack by moving frame NO-2330 up or down as necessary. Frame NO-2330 is moved up or down by means of the adjusting eyebolt NO-2312. If chain is too tight, loosen lower nut and tighten upper nut; if chain is too loose, loosen upper nut and tighten lower nut on eyebolt NO-2312 until proper chain adjustment has been obtained.

3) Assemble chain guard NO-1615 over the clutch assembly and to the lugs on frame MO-2300 with bolts provided.

FINAL ASSEMBLY

1) Make sure that the brush is level and then tighten all three bolts holding frame NO-2330 to frame MO-2310.

2) Reassemble radiator, hood and grille to tractor.

3) Go over the entire installation making sure that all bolts are tight. Lubricate the entire sweeper; for lubrication instructions turn to Lubrication.

4) Turn to Safety Precautions and Operating Procedure before starting tractor and then make any necessary adjustments before starting to sweep.

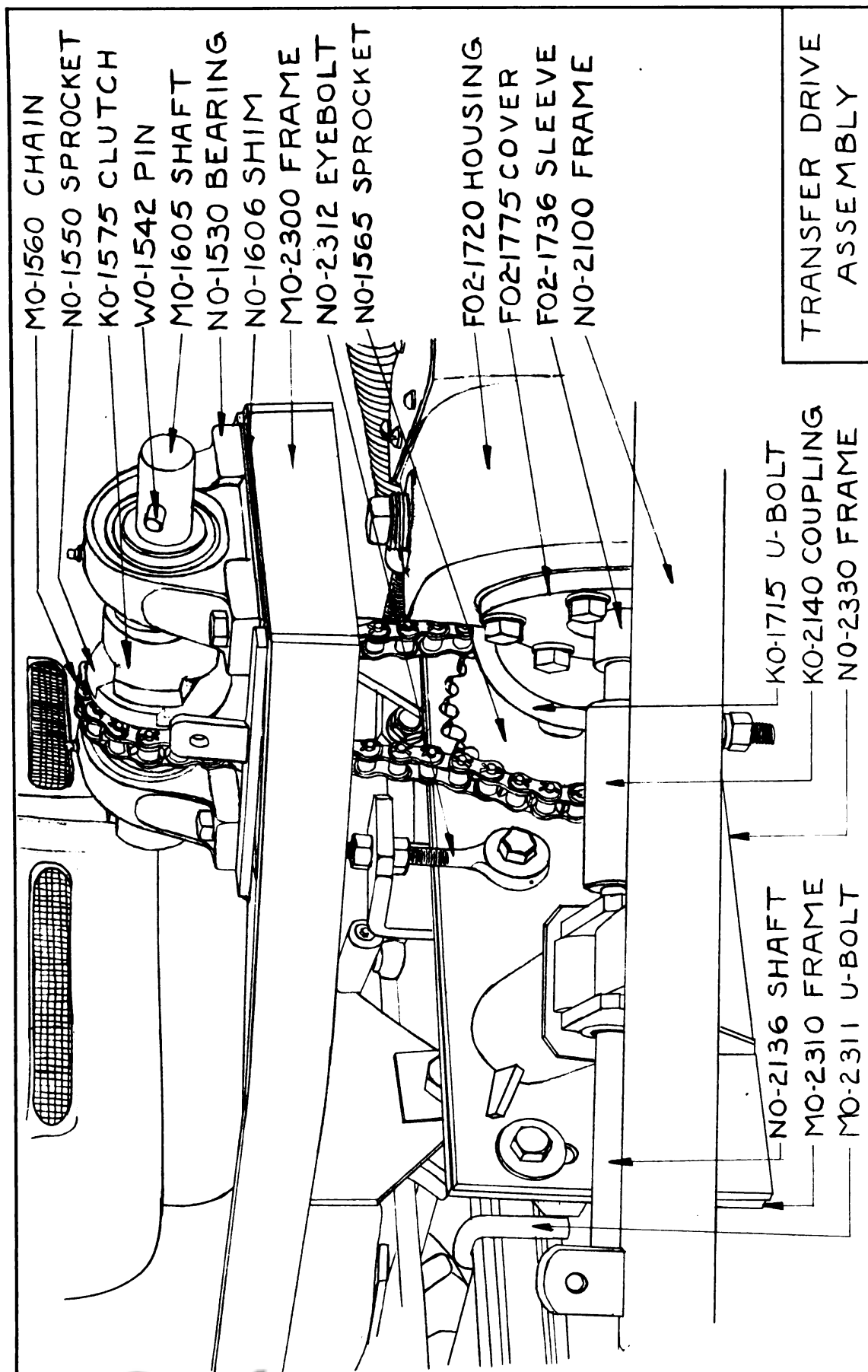
SAFETY PRECAUTIONS AND OPERATING PROCEDURE

1) Go over the entire installation and make sure that all bolts and setscrews are tight. This should be done after the initial installation and periodically every ten hours of operation.

2) If the brush has stood for several days, soak the fibre with water before starting to sweep.

3) The sweeper clutch is located at the front end of the power take-off assembly. It is engaged by grasping the front jaw clutch member KO-1575 with one hand and sliding it into engagement with the jaws of the sprocket hub NO-1550. **CLUTCH MUST BE ENGAGED BEFORE STARTING MOTOR.** The clutch is automatically held in either the engaged or disengaged position by a spring loaded ball which snaps into a groove in the shaft.

4) For snow sweeping the dust hood may be removed if desired.



STARTING AND SWEEPING

1) To raise the brush off the ground, close valve in pump KO-2065 by turning knob KO-2065-3 to the right until tight. Actuate handle KO-2065-1 up and down until brush is clear of ground.

2) Engage clutch as explained in Step 3 above.

3) Start tractor motor, following tractor manual instructions. If tractor is not equipped with a starter, use crank KO-1610 and crank through clutch and sprocket shaft MO-1605.

4) Check machine for smooth operation. Make any necessary adjustments before starting to sweep. The following procedure should be followed:

a) Drive to area to be swept, lower brush by turning knob KO-2065-3 on the hydraulic pump KO-2065 to the left and proceed to sweep. Use no more brush pressure than is necessary to get clean sweeping. This practice will prolong brush life and give desired sweeping results.

b) To disengage the clutch, stop the motor and pull out the sliding clutch member KO-2075 as far as it will go. A spring KO-1595 loaded ball KO-1595 snaps into place both when the clutch is in the engaged and disengaged positions.

ADJUSTMENTS

CLUTCH

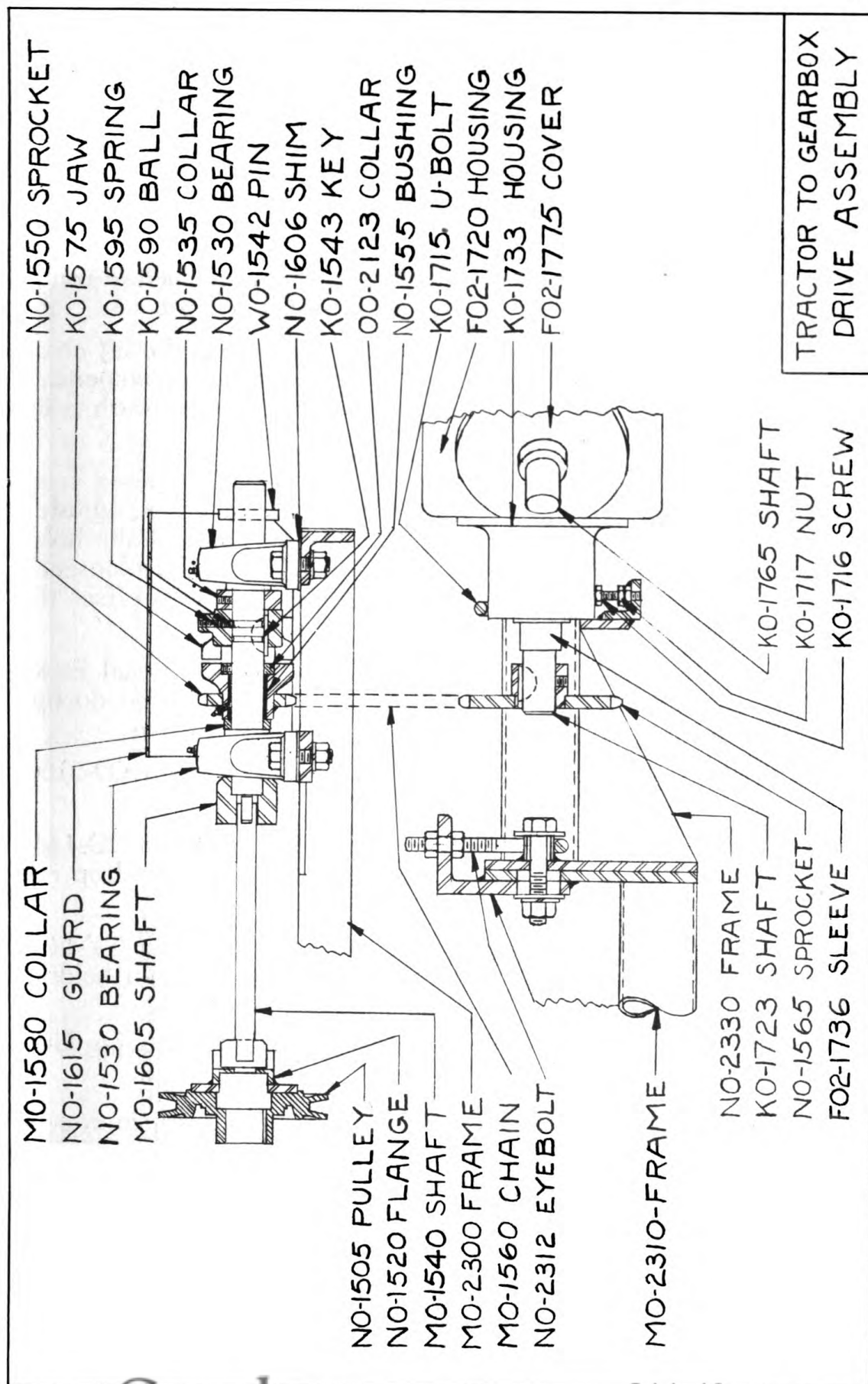
If the clutch automatically disengaged while sweeping, it can be remedied by either one or both of the following methods:

a) Tighten the setscrew in the sliding jaw clutch KO-1575. This will exert more spring pressure on the clutch locating ball.

b) File jaws of both clutch members so that they are square. When worn tapered, they tend to force themselves apart.

TRANSFER DRIVE

The transfer drive chain is designed to run slightly loose. To adjust, raise brush off ground with the sweeper lift mechanism, and then raise frame NO-2330 up or down with eyebolt NO-2312 until desired chain tension has been obtained.



FINAL DRIVE

If the brush drive chain requires adjustment, it is done by loosening and tightening the adjusting nuts on studs TT-1447. By doing this, the proper chain adjustment can be obtained. Always tighten all nuts to lock adjustment.

CARE OF THE BRUSH

It is always advisable to soak the brush with water before using. This toughens the fibres and gives greatly prolonged life.

As the brush wears, it will be necessary to readjust the lift chain on the ram raising arm. The chain must be lengthened to compensate for brush wear and must be again shortened when a new brush is installed.

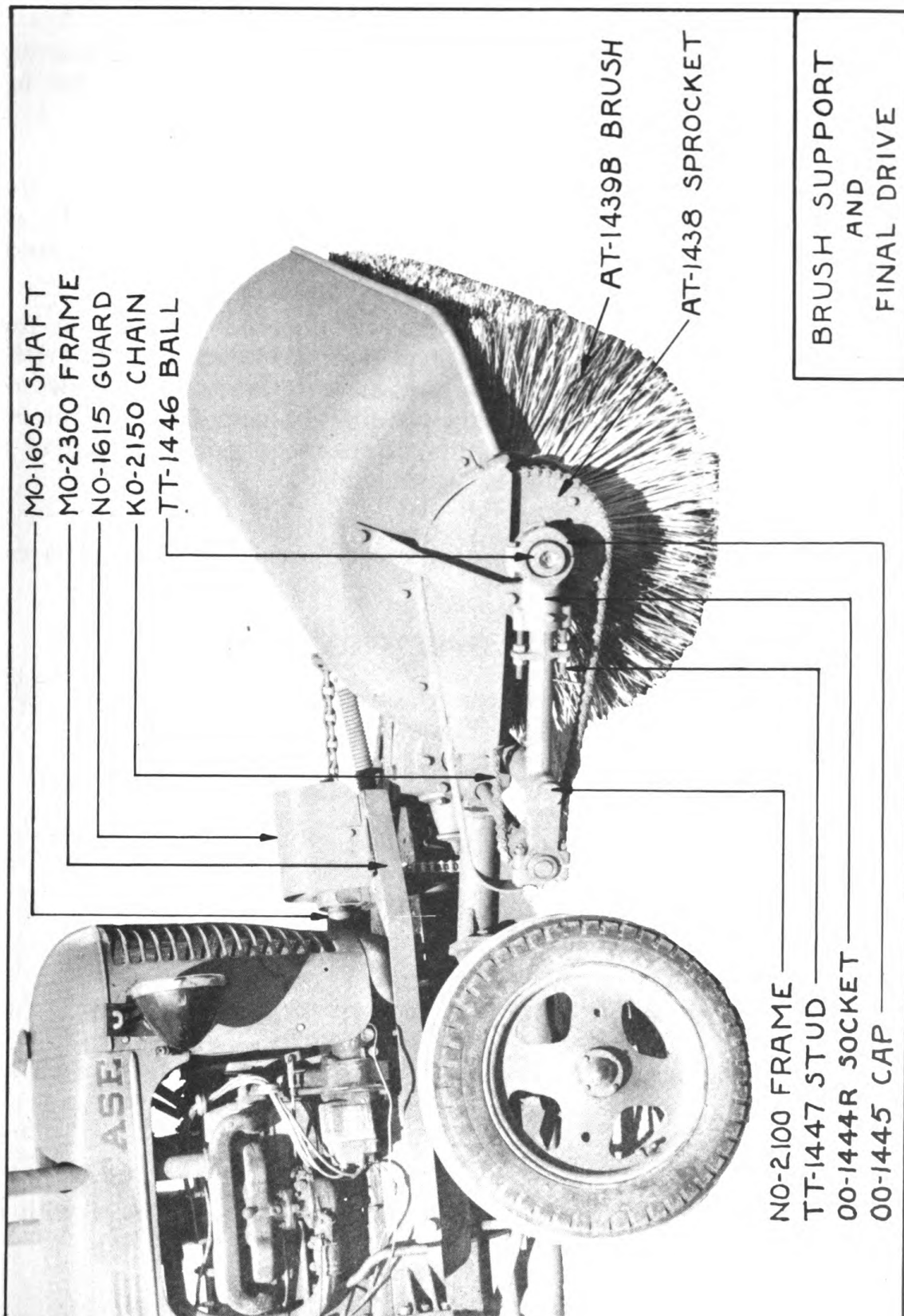
If the brush should wear unevenly and become tapered from end to end, the brush suspension or pivot frame should be adjusted to compensate for such wear. To do this the two outer bolts holding the brush pivot frame NO-2330 to frame MO-2310 are loosened sufficiently to permit rocking the brush frame slightly to offset the uneven wear.

In case the brush becomes noticeably tapered, additional brush life can be obtained by reversing the brush end for end. To do this the brush must be removed from the sweeper as follows:

- a) Remove the connecting link in the final drive chain KO-2150, thus releasing the chain.
- b) Remove the bolts holding cap OO-1445 to socket OO-1444 at both ends of the brush core shaft. The brush will now drop out of the sweeper brush support frame NO-2100.
- c) Slide the bearing balls TT-1446 and the spacer TT-1443 off the end of the brush core shaft. Remove the capscrews holding sprocket AT-1438 to the end of the brush core.
- d) Remount sprocket on opposite end of brush, following with spacer and ball.
- e) Reverse removal procedure to again install brush in sweeper brush support frame.

At all times use only a minimum amount of brush pressure to insure satisfactory sweeping. Excessive pressure will cause undue wear and shorten brush life.

When the bristles of the brush have been worn down to within a few inches of the brush core (3" to 6", depending on the quality of work to be done) the brush must be refilled. For refilling instructions turn to "Filling the Brush" in Section IV of this manual.



LUBRICATION

The sweeper should be greased daily or after each eight hours of operation. Follow the tractor manufacturer's instructions for lubricating the tractor.

Location of grease fittings on the sweeper are shown on the Lubrication Chart by Numbers 1, 2, 3, 4, 5, 6, 7, 8 and 9. In all these locations, CG-1, general purpose grease No. 1, is to be used.

The grease case should be regularly checked to maintain the grease level to the height of the level plug #11 located about 1½" below the gear case shaft centerline, at least every eight hours of operation. Fill through filler plug opening 10 with GO-90, Universal gear lubricant SAE 90. Manufacturers recommend the use of a heavier grease, if available, in warm climates.

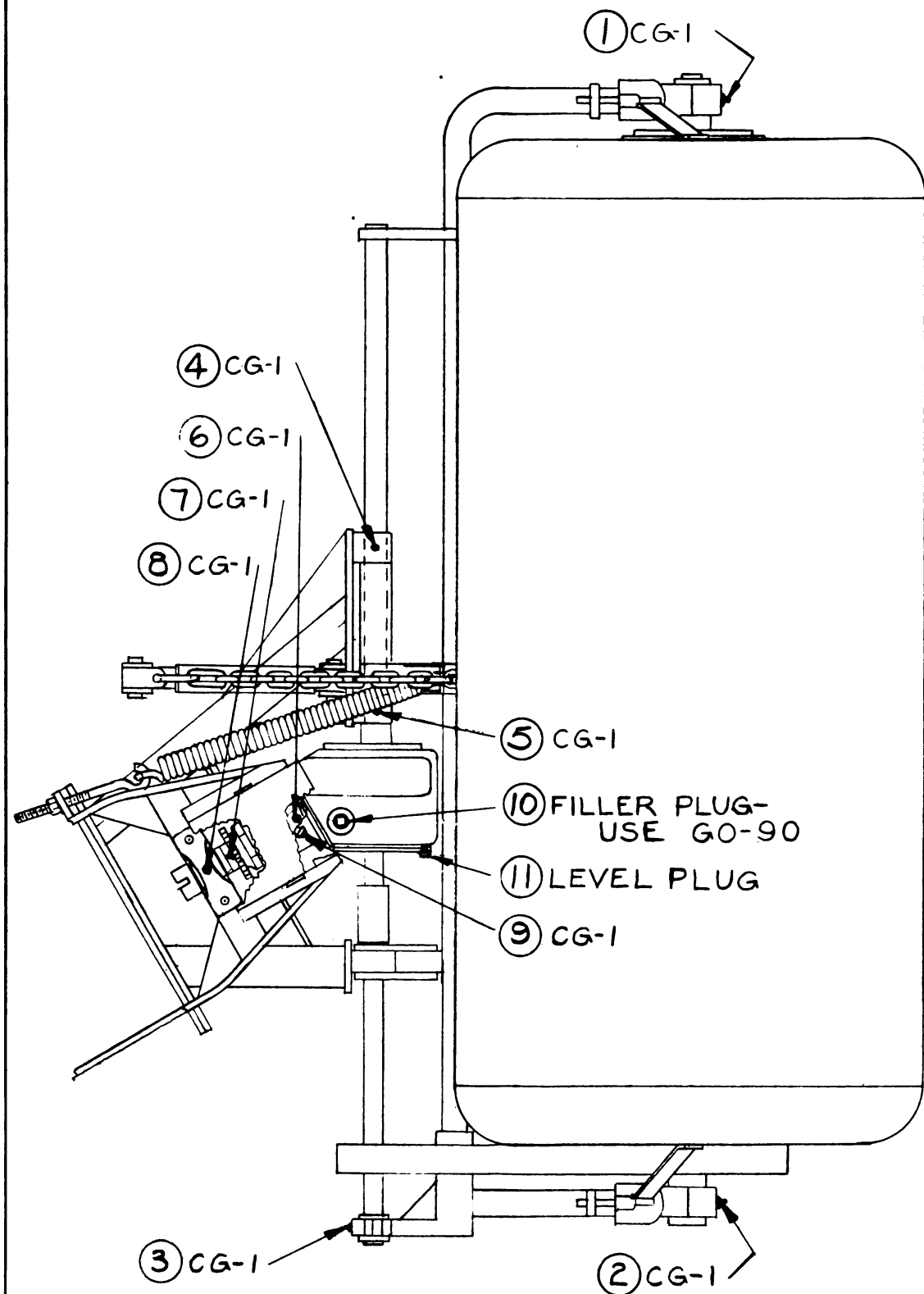
It is best to run the chains without lubrication and none is recommended.

MACHINE SPECIFICATIONS

Type: Rotary Sweeper, Tractor Mounted.
 Drive: Front Tractor Power Take-off.
 Clutch: Jaw Type.
 Brush: 30" diameter, 6' long.
 Lift: Hydraulic Hand Pump.
 Weight: 1050#, approximate.
 Overall Width: 80"
 Overall Length: 103"
 Overall Height: 32"

PREPARATION OF SWEEPER FOR STORAGE

1. Clean machine thoroughly, using a cleaning agent such as Dearboline.
2. Lubricate the entire sweeper.
3. Treat all bolts, studs, ram piston and chain drives with a rust preventative grease.
4. Paint Sweeper.
5. Set brush assembly on blocks so that weight of sweeper does not rest on brush fibre.



LUBRICATION CHART

SECTION II

MAINTENANCE MANUAL

SERVICING THE GEARCASE ASSEMBLY

To inspect or repair the gearcase, it should be removed from the sweeper by the following procedure:

1. Disconnect the transfer drive chain MO-1560 by removing the connecting link keeper and link.
2. Remove the U-bolt KO-1715 which clamps the input housing KO-1733 to the cross member of the brush arm pivot frame NO-2330.
3. Loosen the lock nuts on the brush bearing socket studs TT-1447 on the sprocket end of the brush and telescope the socket OO-1444 on the arm to give slack in the final drive chain KO-2150.
4. Loosen all the setscrews in coupling KO-2140 and slide the coupling toward the gearcase as far as it will go. Then remove the woodruff key that is exposed and pull the countershaft NO-2136 outward sufficiently to free the coupling.
5. Remove the two cotter pins in pivot shaft NO-2345 and while supporting the gearcase, pull out the shaft enough to free the gearcase. Then lift out the gearcase assembly.
6. Drain the grease from the case through the drain plug in the bottom of the housing.
7. Remove the six capscrews in the input housing KO-1733 and pull out the housing, shaft and pinion assembly.
8. Rotate the shaft by hand and feel if the bearings run smoothly and freely. If the shaft does not turn freely, clean or replace the bearings.
9. Inspect the pinion NO-1725 for wear or failure and replace if necessary. Make sure that lock nut FO2-1732 is tight and that the cotter key is in place whether or not a new pinion is installed.
10. Now rotate the output shaft KO-1765 in the same manner and inspect the driven bevel gear NO-1770 for excessive wear or damage. If replacement is deemed necessary, remove the driven end cover FO2-1775 and loosen the Allen head setscrew in the bevel gear hub after which the shaft and cover assembly is pulled out. The gear is removed through the oblong top cover opening.

11. If the dead end bearing FO2-1760 requires replacement, it may be driven out by removing the KO-1780 dead end cover thus exposing the bearing. In replacing the bearing, make sure that the felt seal end is toward the outside of the housing.

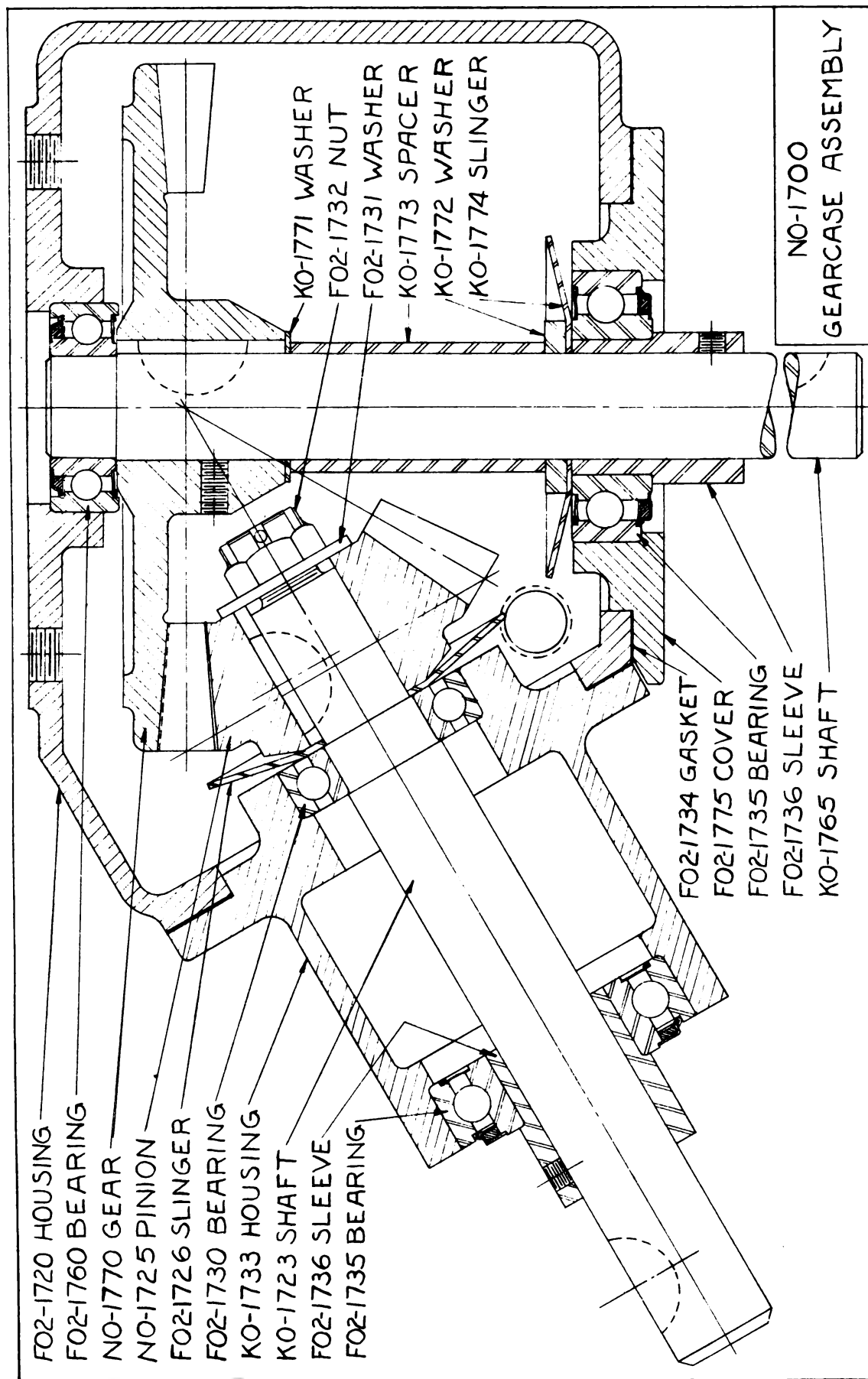
12. If the drive end bearing should require replacement, loosen the setscrew in adapter sleeve FO2-1736 which permits slipping the shaft out of the sleeve and pressing the bearing off the sleeve. Here, too, the felt seal end of the bearing must be toward the outside of the housing when it is reassembled.

13. When reassembling the shaft and gear unit in the housing, make sure that the slinger KO-1774 then the washer KO-1772, then the spacer sleeve KO-1773, and finally washer KO-1771 are assembled in that order before the gear is slipped over the shaft and on the woodruff key. The Allen setscrew is tightened after the spacer sleeve tolerance is found to be correct. This is checked by observing the freedom of the shaft movement when tightening down the capscrews in the cover. Gasket FO2-1734 is used as a shim and should be added if the shaft does not rotate freely as the screws are tightened. If there is too much end play as determined by looseness of the spacer sleeve after the screws are tight, a gasket must be removed. Then the Allen setscrews in the gear hub and in the bearing adapter sleeve should be tightened securely.

14. The input housing and shaft assembly is then replaced and the gear mesh checked. A little fitting of the gears may be required. The high spots can be felt when turning either shaft by hand, located and worked down with a file. About $1/32''$ backlash at the teeth is the correct clearance. This is regulated by adding or removing gaskets at the input housing flange.

15. Fill the gearcase to the plug level in the housing located about $1-1/2''$ below the shaft centerline. Check the gaskets to make sure that none leak and go over all capscrews to see that they are tight.

16. Install the gearcase assembly by reversing the procedure of removing it, steps 5 to 1 above. It should be noted that the input housing KO-1733 rests on an adjustable screw jack which is



employed to align the lower sprocket NO-1565 with the upper sprocket KO-1550. The alignment should be checked with a straight edge and adjustment made if necessary before U-bolt KO-1715 is tightened down.

PUMP

The oil level in pump KO-2065 should be checked periodically. With release valve KO-2065-3 open fill with SAE #10 oil through breather plug KO-2065-10.

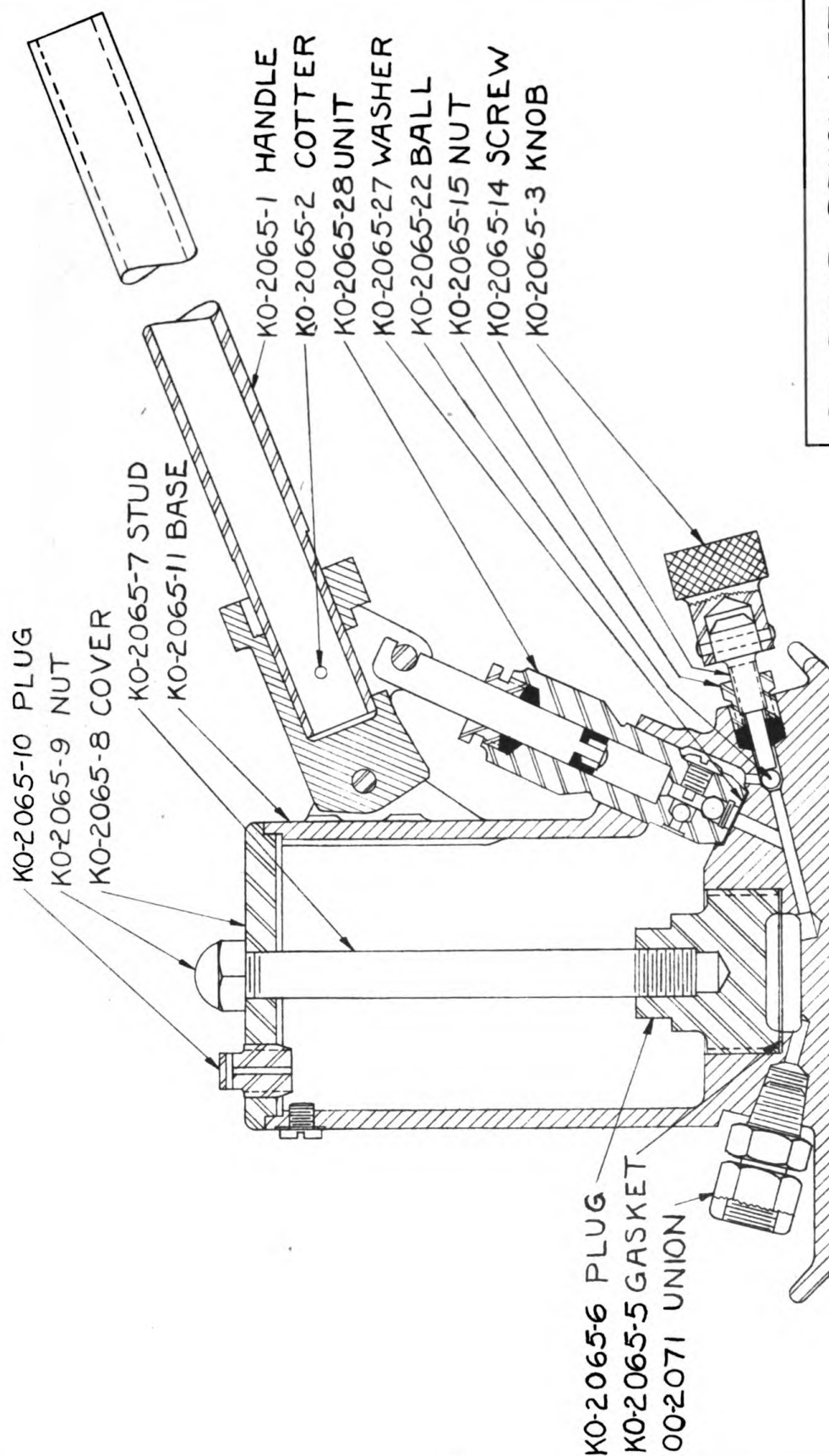
If the pump does not work properly, or react quickly, it is probably due to air in the oil line. This air can be bled from the system by loosening the bleeder screw in ram 60-2020 and actuating the pump until oil comes out of the ram bleeder screw hole. When it does, replace screw and refill pump.

When the pump does not hold pressure, there is either a leak in the line or the release valve ball KO-2065-22 is not seating properly. Check all connections for leaks. If this does not remedy the situation, remove release screw KO-2065-14 and with a soft punch or rod, hit ball KO-2065-22 two or three solid taps. This will seat the ball.

Replace release screw KO-2065-14.

Oil leakage can be stopped by tightening the packing gland on the piston rod and the packing gland KO-2065-15 on the release screw.

In case the pump still does not function properly, replace piston and housing assembly KO-2065-28, exercising care to keep gasket washer KO-2065-27 in place.



OIL PUMP - BRUSH LIFT
ASSEMBLY - KO-2065

SECTION III

PARTS LIST

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PREPARATION OF REQUISITIONS

Sample Copy for Use in the Preparation of Requisitions

Revisions in QMC Form 400 for requisitioning spare parts are confined to new column headings. Until new forms are available all organizations are to continue using the present form and either type or write in corrections indicated in column headings.

Under revised heading "Nomenclature and Unit" list the article and the unit (ea for each; lb for pound, etc.). Under heading "Authorized or Maximum Level" list the authorized depot stock levels or organizational allowances given in Part III of the Corps of Engineers Supply Catalog. The total number on hand for each item is listed under "On Hand". In column

headed "Due In" enter the total quantity previously requisitioned but not delivered. For "Initial" and "Replenishment" requisitions, the sum of "Required", "Due In", and "On Hand" should equal the "Authorized or Maximum Level".

On this page is shown a sample requisition on QMC Form No. 400 which conforms to the latest revisions. The marginal notes give instructions for preparing a requisition for spare parts for Engineer equipment. Additional information on this subject is contained in section AA-1 of Part III Engineer Supply Catalog, available from the Engineer Field Maintenance Office, P. O. Box 1679, Columbus, Ohio.

State PERIOD designation by use of one of the following terms:

- (1) "INITIAL"—first requisition of authorized allowances
- (2) "REPLENISHMENT"—subsequent requisitions to maintain authorized allowances.
- (3) "SPECIAL"—requisitions for necessary repairs not covered by allowances.

Type "SPARE PARTS" in upper right hand corner of requisition.

Give complete shipping instructions. Special instructions for packing, marking, routing, etc., should be given at the end of the requisition.

State proper nomenclature of machine, and make, model, serial number and registration number.

Prepare a separate requisition for each different machine.

State basis or authority and date delivery is required, immediately below description of machine.

Double space between items.

Group parts required under group headings as shown in manufacturers' parts catalogs (Technical Manuals).

State manufacturers' parts numbers and nomenclature descriptions accurately and completely. Do not use abbreviations.

WAR DEPARTMENT
Q. M. C. Form No. 400
Revised April 5, 1943

(Sample)
REQUISITION

To: Engineer Supply Officer No. of Sheets 1 Sheet No. 1
Columbus Army Service Forces Depot, COLUMBUS, OHIO
Requisition No. E-521-Z-44 Date July 5, 1943 Period Replenishment

SHIP TO Engineer Property Officer, Pine Camp, New York
MARKET FOR: Supply Officer, 802nd Engineer Battalion, Pine Camp, N.Y.

Requisitioned By (show Signature, Rank, Organization, Destination. If different from "SHIP TO" include address):
Robert E. Doe
Major, C.E.
Engineer Property Officer

Approved By:
John E. Doe
Col., C.E.
Executive Officer

SYMBOL NO.	NOMENCLATURE AND UNIT	AUTHORIZED OR MAXIMUM LEVEL	ON HAND	REQUISITIONED DUE IN	REQUIRED	APPROVED
	MACHINE FOR SHIPPER, ROTARY BROOM, TRACTOR MOUNTED AND POWERED, ONE WAY SWEEPING, 30 IN. x 6 FT. BRUSH, HUGH MODEL-1, SERIAL #1240.					
	Basis: Repair of disabled equipment. Delivery is requested by July 20, 1943.					
	<u>SPROCKET, GUARD AND BRUSH BEARINGS</u>					
IT-1478	Sprocket-Brush End	ea -	0	0	1	
IT-1446A	Ball with Pushing	ea -	0	0	2	
IT-1447	Stud-Socket Adjusting	ea -	0	0	1	
	<u>GEARCASE ASSEMBLY</u>					
30-1757	Shaft-Input	ea -	0	0	1	
308-1754	Gasket, Input Housing	ea -	0	0	2	
	<u>CONCRETE SUPPLIES</u>					
10Y10	Goodruff key-style "D"	ea -	0	0	2	

*Nonexpendable items such as tools must be accounted for, when requisitioned, by a statement that they have been placed on REPORT OF SURVEY or STATEMENT OF CHARGES.

Emergency requisitions sent by telephone, telegraph or radio must always be confirmed immediately with requisition marked: "Confirming (state identifying data)."

PREPARATION OF REQUISITIONS

A sample requisition in the correct form for submission by the Engineer Property Officer is shown on the opposite page.

THIS SHALL BE FOLLOWED IN MAKING OUT REQUISITIONS

In order to eliminate duplication of work, Property Officers may authorize organizations to prepare requisitions in final form, leaving requisition number space blank for completion by Property Officer.

THE FOLLOWING RULES WILL BE OBSERVED CAREFULLY IN PREPARING REQUISITIONS FOR SPARE PARTS:

- a. Prepare a separate requisition for each different machine.
- b. Type "SPARE PARTS" in upper right hand corner of requisition form.
- c. State PERIOD designation by use of one of the following terms:
 - (1) "INITIAL"—first requisition of authorized allowances.
 - (2) "REPLENISHMENT"—subsequent requisitions to maintain authorized allowances.
 - (3) "SPECIAL"—requisitions for necessary repairs not covered by allowances.
- d. Give complete shipping instructions.
- e. State proper nomenclature of machine, and make, model, serial number and registration number.
- f. State basis of authority, and date delivery is required, immediately below description of machine.
- g. Group parts required under group headings as shown in manufacturer's parts catalogs.
- h. State manufacturers' parts numbers and nomenclature descriptions accurately and completely. Do not use abbreviations.
- i. Double space between items.
- j. Emergency requisitions sent by telephone, telegraph, or radio must always be confirmed immediately with requisition marked: "Confirming (state identifying data)."
- k. Nonexpendable items must be accounted for.

SPROCKET GUARD & BRUSH BRG'S.

PART NO.	NO. REQ.	PART NAME	DESCRIPTION
AT-1438	1	Sprocket, Brush End	3/4" P x 45T Sprocket
	6	Capscrews	3/8" x 1" NC Hex.
	6	Lockwasher	3/8" SAE
KO-1439	1	Guard-Brush Chain	Welded Unit
	3	Bolt-Guard Anchor	3/8"x1" NC Hex Nut & LW
TT-1443	1	Spacer-Spkt. to Brg.	2-1/2"ODx1 1/4"B.x1" Lg.
OO-1444R	1	Socket-Brush Brg. RH	C.I. #OO-1444
OO-1444L	1	Socket-Brush Brg. LH	C.I. #OO-1444
	2	Setscrew	1/2" x 3/4" Sq. Hd.
OO-1445	2	Cap-Brush Brg. Sock.	C.I. #OO-1445
	4	Bolt-Cap to Socket	3/8x2 1/4" NC Hex Nut & LW
TT-1446A	2	Ball with Bushing	Parts TT-1446 & TT-1446A
TT-1446	2	Ball only-Brush Brg.	C.I. #UD-3046
TT-1446A2	2	Bushing-Brush Shaft	1-1/2"x1 1/4"x3" Brg. Graph
	2	Grease Fitting	1/8" Straight Hydran.
TT-1447	4	Stud-Socket Adj.	1/2"x4-1/4" NC Thd. MS
	8	Nut-Stud	1/2" N.C. Hex.

BRUSH-HOOD & SUPPORTS

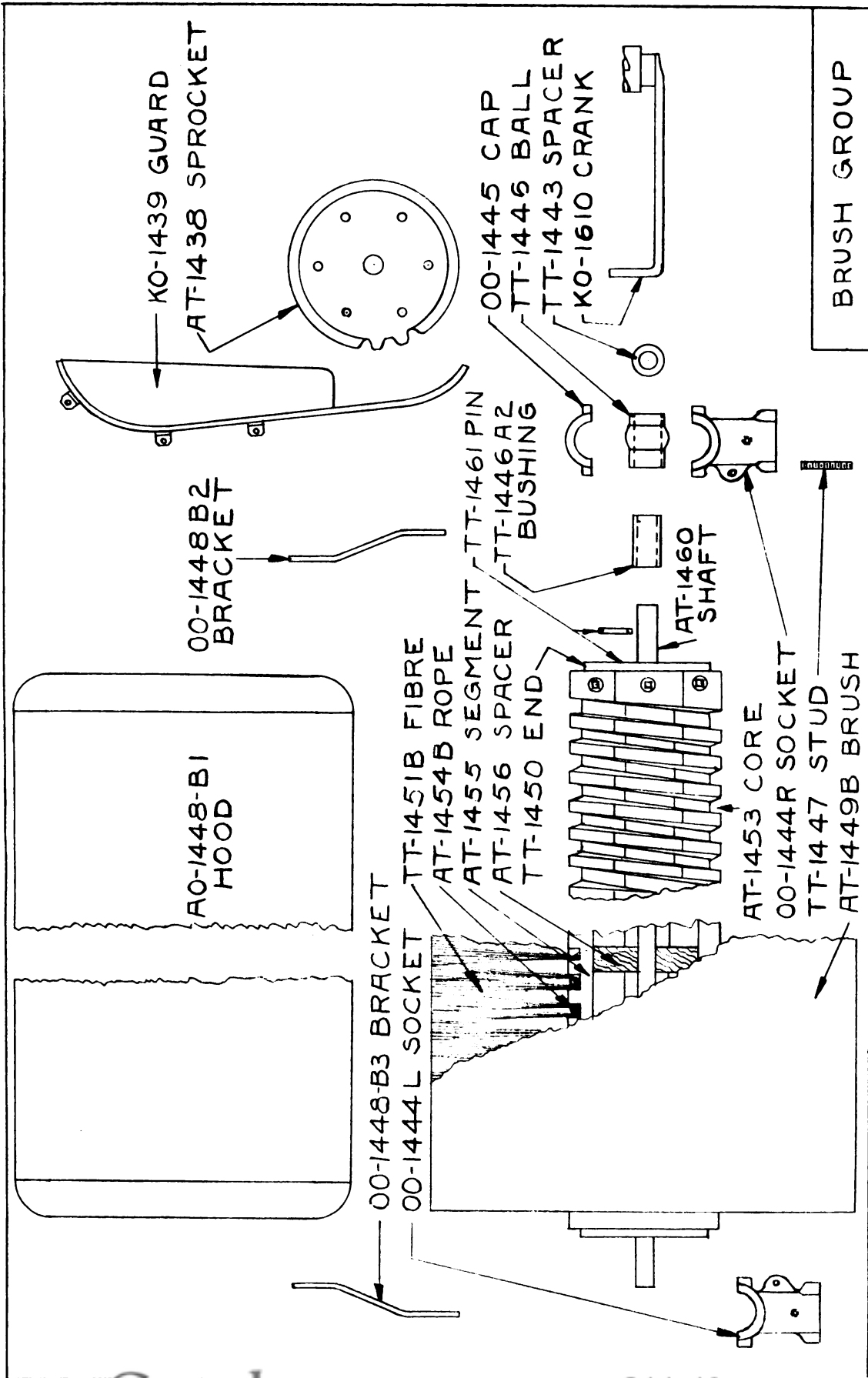
AO-1448B1	1	Hood-72" Brush	Curved Ends
	3	Bolt-Hood Anchor	5/16x1 1/4" NC H. Nut & LW
OO-1448B2	1	Bracket-Hood Anchor	3/8 x 1-1/2" x 13 1/2"
OO-1448B3	1	Bracket-Hood Anchor	Dead End-3/8x1 1/2"x12 1/2"
	4	Bolt	1/2x1 1/2" NC Hex. Nut & LW

PALMYRA FIBRE BRUSH

AT-1449B	1	Brush Assembly	72" Palmyra Stalk
TT-1450	2	Core End	C.I. #E-3050
	16	Bolt	Machine Bolt 3/8x2"
	16	Washer	Plain Washer 1/2" W.I.
	16	Lockwasher	3/8" S.A.E.
TT-1451	100#	Fibre-Brush Fill.	22" Palmyra Stalk
AT-1453	1	Core-Brush	For 72" Brush
AT-1454B	1	Wire Rope, 72" Brush	3/8"x6x7 Galv. x 87' Lg.
	55	Staples, Wire Rope	2" Wire, 1/2" wide
AT-1455	1	Set Seg.-Brush Core	2" thick-72" long
AT-1456	3	Spacer-Core	7-1/8"x2" Pine
AT-1460	1	Shaft-Brush Core	1-1/4" x 82" CRS
TT-1461	2	Pin-Core End to Shaft	3/8 x 3" CRS
	4	Cotter	3/32" x 1"

TRACTOR TO GEAR CASE DRIVE

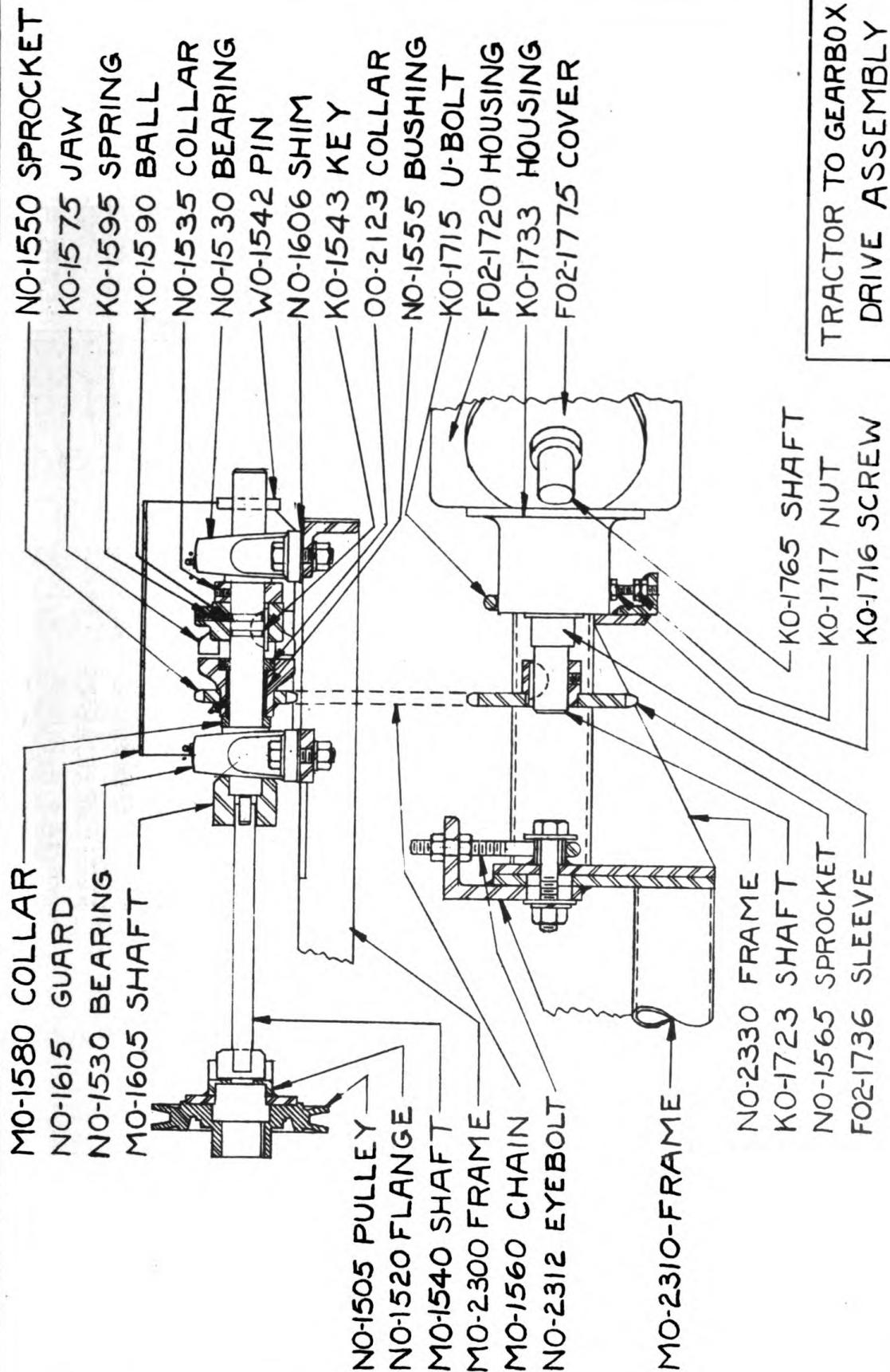
NO-1505	1	Pulley-Tractor Fan.	C.I. #MO-1505
	6	Capscrew	5/16 x 3/4" NC Hex.

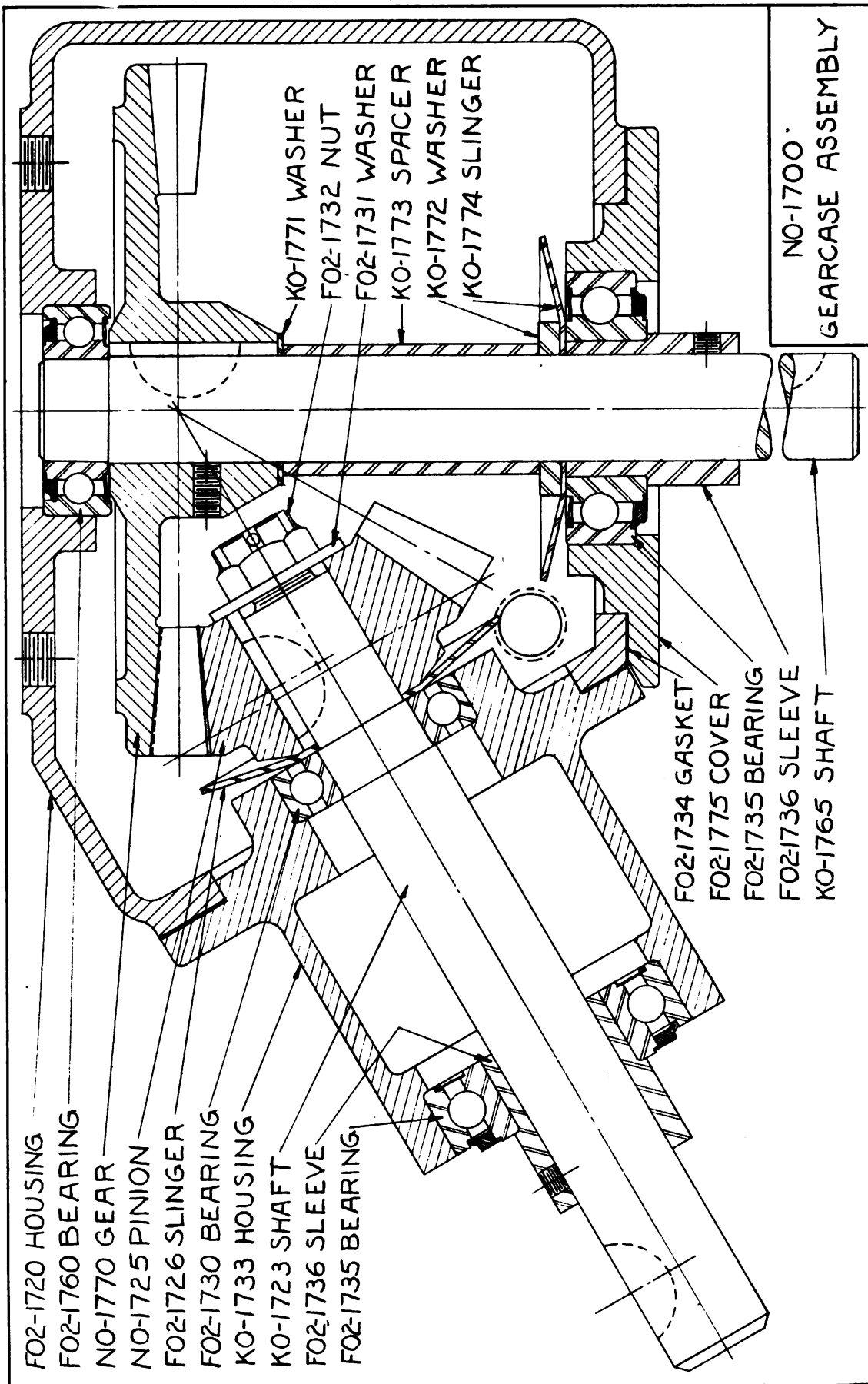


PART NO.	NO. REQ.	PART NAME	DESCRIPTION
	6	Lockwasher	5/16" SAE
NO-1520	1	Flange, Pulley PTO	Flange, slotted hub
NO-1530	2	Brg. Clutch Shaft	Seal Master NP 20
	4	Bolt	1/2x2" NC Hex. Nut & LW
NO-1535	1	Collar	2" ODx1-1/4" Bx3/4"
	2	Setscrew	3/8" x 3/8" Allen
MO-1540	1	Shaft	3/4 x 10-1/4" OA w/tongues
WO-1542	1	Pin-Tractor Crank	3/8 x 2-1/4" Drill Rod
KO-1543	1	Key-Shifter Clutch	HYpro #1010
NO-1550A	1	Sprocket & Bushing	Nos. NO-1550 & NO-1555
NO-1555	1	Bushing	1 1/2" ODx1-1/4" Bx1 1/2" Lg.
MO-1560	1	Chain-Trans. Drive	3/4" P. Sgl. Roller, 48 L.
KEO-1561	1	Connector Link, Pl.	3/4" Straight
KRO-1561	1	Connector Link-Offset	3/4" Offset
NO-1565	1	Sprocket-Gearcase Dr.	24T-3/4" P.x1-1/4" B
	2	Setscrew	Allen, 5/16"x1/2"
KO-1575	1	Jaw-Shifter Member	Jaw Type-Ball Lock
	1	Setscrew-Spring Ret.	3/8" x 3/8" Allen
MO-1580	1	Collar-Sprocket end	1-3/4" ODx1 1/4" Bx7/16"
KO-1590	1	Ball-Clutch Shift Lock	5/16" Steel Ball
KO-1595	1	Spring-Ball Press	5/16" ODx.040 Wx1-1/4" C
OO-2123	1	Collar-Clutch Spkt.	1-3/4" ODx1 1/4" Bx1/2" L
	2	Setscrew	1/4" x 1/4" Allen
MO-1605	1	Shaft-Cl. & Spkt. (VI)	1-1/4" x 15-1/4" O.A.
NO-1606	4	Shim-Brg.-Chain Adj.	16 Ga. 2x6-1/2" BA
KO-1610	1	Crank Starting	Welded
NO-1615	1	Guard-Upper Spkt.	16 ga. x 9 x 16 B. A.
	2	Bolt	3/8 x 1" Hex. NC Nut & LW

GEAR CASE ASSEMBLY

KO-1715	1	"U" Bolt	1/2 x 17" M.S.
	2	Nut	1/2" NC Hex.
	2	Lockwasher	1/2" SAE
	2	Cotter Key	1/8" x 1"
KO-1716	1	Screw, Adjusting	3/8 x 2" Hex. NC
KO-1717	1	Nut-Adj. Screw Lock	3/8" NC Hex.
FO2-1720	1	Housing-Gearcase	CI #FO-104A
	1	Plug-Filler	1" Sq. Hd. Pipe
	1	Plug-Level Test	1/4" Sq. Hd. Pipe
	1	Plug-Drain	1/2" Sq. Hd. Pipe
KO-1723	1	Shaft Input	1-1/4" x 11" CRS
	2	Key	Woodruff Style D
NO-1725	1	Pinion-Driver	C.S. NO-1725

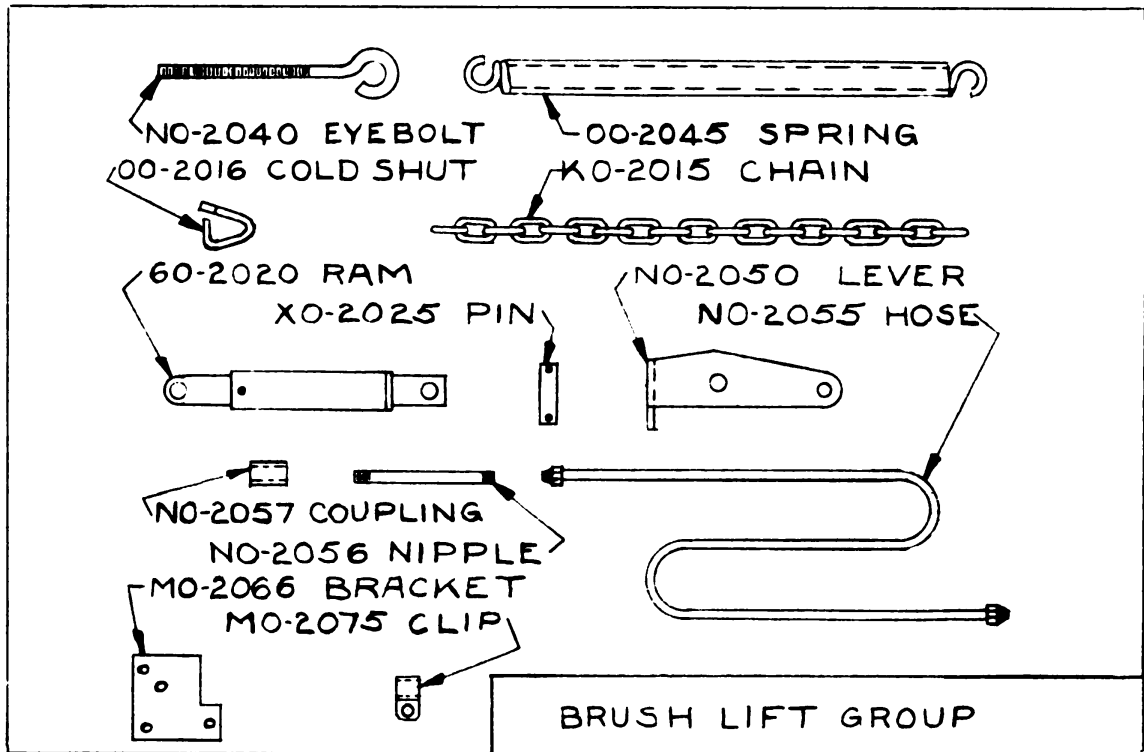




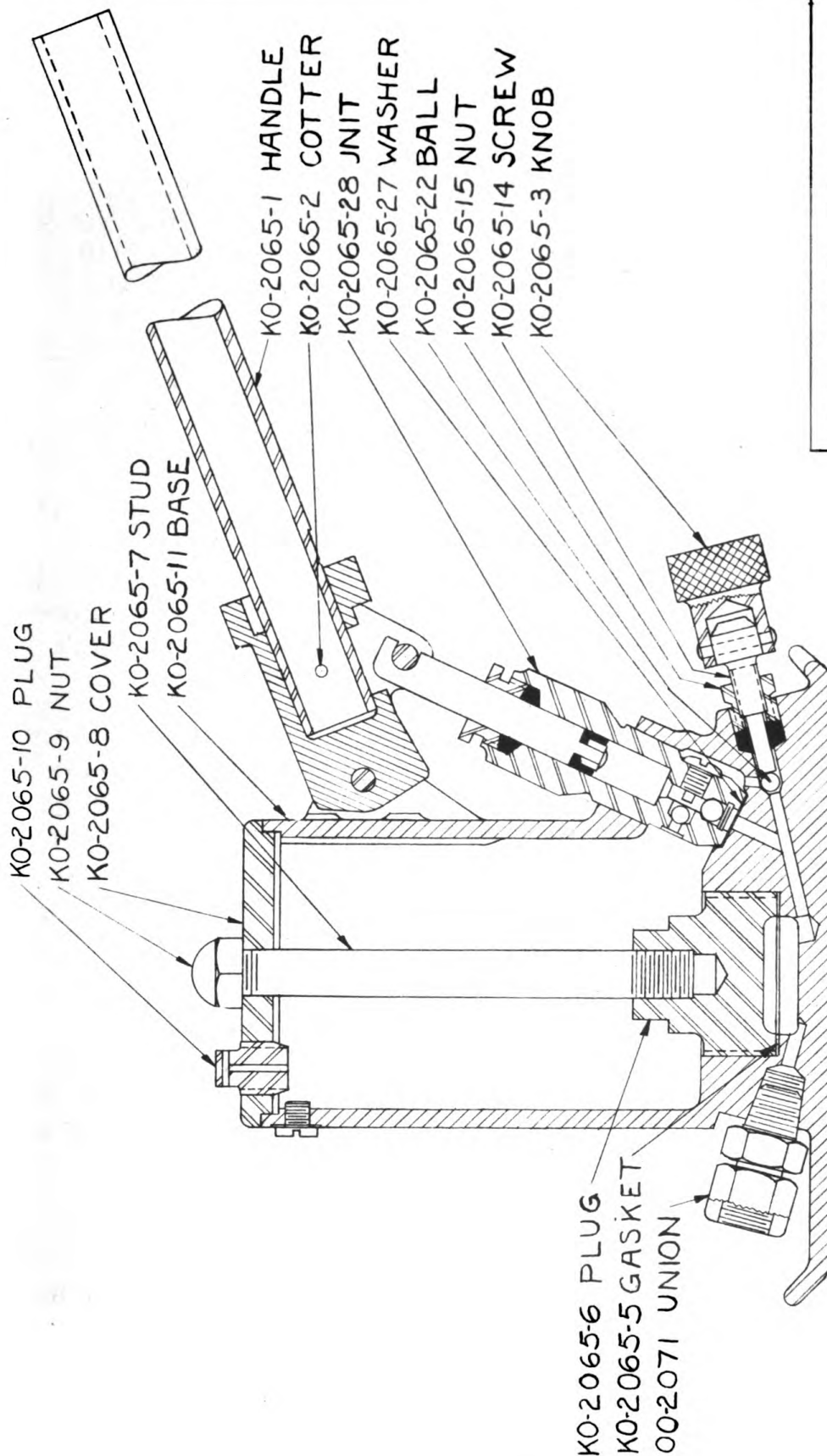
PART NO.	NO. REQ.	PART NAME	DESCRIPTION
FO2-1726	1	Slinger-Grease	22 Ga. 4 O D1-1/8" B
KO-1727	1	Washer-Shim	1½"x1-9/64" Bx1/16" Th.
FO2-1730	1	Bg.-Input Shaft	N.D. #7506
FO2-1731	1	Washer-Pinion	3/4" B.x1-3/4" OD
FO2-1732	1	Nut-Pinion Retainer	Special 3/4" Cast.
	1	Cotter	1/8" x 1-1/2"
KO-1733	1	Housing, Input Shaft	C.I. #FO-109
	6	Capscrew	1/2" x 1" NC Hex.
	6	Lockwasher	1/2" SAE
FO2-1734	2	Gasket-Input Hous.	1/32"x6½" OD Vellumoid
FO2-1735	2	Bearing-Outer	N.D. #87508
FO2-1736	2	Sleeve-Brg, Adapt.	1-3/4" ODx1-1/4" Bx2"
	4	Setscrew	5/16" x 1/2" Allen
FO2-1755	1	Cover-Top	12 Ga.x2-3/4x9-1/4" Sheet
	6	Screw-Cover	1/4x3/4" NC Rd. Hd. Mach
	6	Lockwasher	1/4" SAE
FO2-1756	1	Gasket-Top Cover	1/32"x2-3/4"x9-1/4" Vell.
FO2-1760	1	Brg.-Output Shaft-In.	N.D. W.C. 87506
KO-1765	1	Shaft-Output	1-1/4"x10-15/16" CRS
	1	Key	Woodruff Style D
NO-1770	1	Gear-Bev. Driven	C. St. Alloy #NO-1770
KO-1771	1	Washer-Spring Type	1-3/4" ODx1-1/4" Bx1/16"
KO-1772	1	Washer-Spacer	2" ODx1-17/64" Bx1/4" L
KO-1773	1	Sleeve-Spacer	1-1/2 ODx11 Ga.x3-3/16" L
KO-1774	1	Slinger-Grease	22 Ga. 4" ODx1-17/64" B
FO2-1775	1	Cover-Driven End	C.I. #FO-110A
	6	Capscrew	1/2 x 1" NC Hex.
	6	Lockwasher	1/2" SAE
KO-1780	1	Cover-Dead End	Welded Disc & Hub
	4	Capscrew	5/8 x 1" NC Hex
	4	Lockwasher	5/8" SAE

BRUSH RAISING CONTROL

KO-2015	1	Chain-Brush Raising	5/16" St. Link Coil Ch.
OO-2016	1	Cold Shut	5/16" Std.
	1	Lockwasher	1/4" SAE
60-2020	1	Ram-Hyd. Brush Lift	HYDRECO #154
	1	Setret Elbow	1/4" M.I.
XO-2025	2	Pin-Ram End	1" x 3-1/4" CRS
	4	Cotter Pin	3/16" x 1-1/2"
NO-2040	1	Eyebolt-Bal. Spring	5/8 x 7" threaded NC
	1	Nut	5/8" Hex. Nut
	1	Washer	5/8" Plain
OO-2045	1	Spring-Brush Bal.	1-3/4 ODx11/32"x22" L
NO-2050	1	Lever-Ram Thrust	Welded Unit



PART NO.	NO. REQ.	PART NAME	DESCRIPTION
	1	Bolt-Lever Arm Pivot	3/4x2 1/2" Hex. NC Cast Nut
	1	Cotter Pin	1/8 x 1-1/4" Cotter
NO-2055	1	Hose-Hydrau. Oil Line	1/4" Male IPT Ftg. x 8' L.
NO-2056	1	Nipple	1/4 x 7"
NO-2057	1	Coupling	1/4" Pipe
	1	Street Elbow	1/4" Street Elbow
KO-2065	1	Pump-Brush Lift	With Reservoir
KO-2065-1	1	Handle-Oil Pump	1/2" x 12" Lg.
KO-2065-2	1	Cotter Pin-Handle Ret.	1/8 x 1-1/4"
KO-2065-3	1	Knob-Valve	1" ODx1-1/4" Lg.
KO-2065-4	1	Pin-Knob to Stem	1/8" ODx13/16" Lg.
KO-2065-5	1	Gasket-Inner Plug	1-5/8" ODx1 1/4" Bx1/32"
KO-2065-6	1	Plug-Pump Base, Inner	1-3/4" ODx1-1/2" Lg.
KO-2065-7	1	Stud-Cover Retainer	1/2" ODx4-7/8" Lg.
KO-2065-A8	1	Cover-Reservoir	CI #KO-2065-A8
KO-2065-9	1	Cap Nut-Cover	1/2" NC
KO-2065-10	1	Plug-Breather & Filler	1/4" Sq. Hd.
KO-2065-11	1	Base-Pump-Assembly	Am. Hyd. JX 508.5 #1
MO-2066	1	Bracket-Pump Mtg.	1/4 x 6 x 7"
	2	Screw, Flat Head	3/8 x 1" F.H.
	2	Nut	3/8" Hex. NC
	2	Lockwasher	3/8" SAE
	2	Capscrew Pl. Anchor	5/8 x 1-1/4" Hex. NC
	2	Lockwasher	5/8" SAE
OO-2071	1	Union-Hose Adapter	Eastman #961
MO-2075	1	Clip-Hose Anchor	16 ga. 1-1/4"x6" Lg. Band



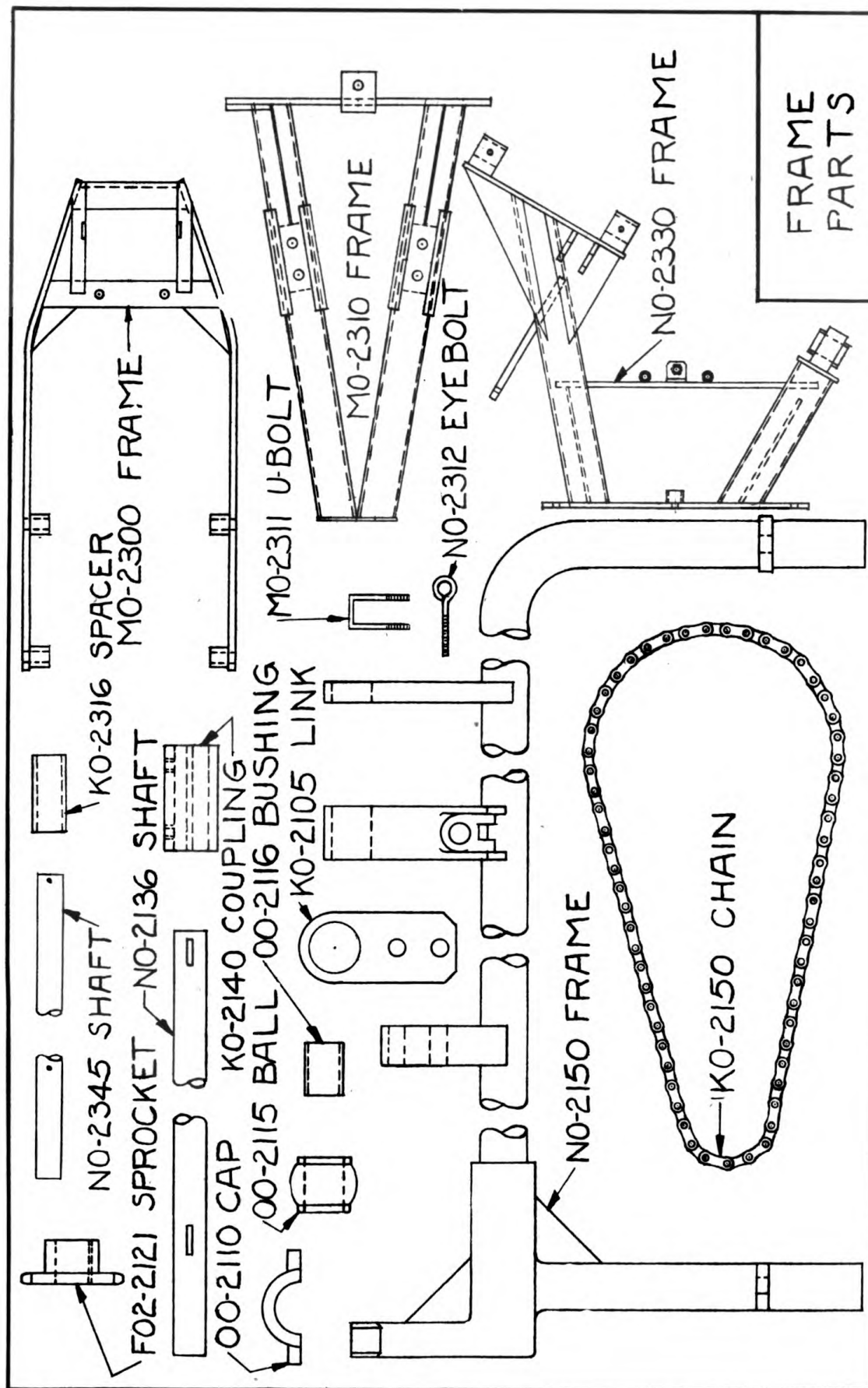
OIL PUMP - BRUSH LIFT
ASSEMBLY - KO-2065

BRUSH FRAME

PART NO.	NO. REQ.	PART NAME	DESCRIPTION
NO-2100	1	Frame-Brush Support	Welded Unit
KO-2105	2	Link-Pivot Connect.	3/8x2-1/2x6" MS
	2	Bolt	1/2x3" NC Hex. Nut & LW
OO-2110	1	Cap-Countershaft Ball	CS #OO-2110 Al
	2	Bolt	3/8x3" NC Hex. Nut & LW
OO-2115A1	1	Ball & Bushing	OO-2115 & O-2116
OO-2115	1	Ball-Ctrshaft Brg.	CI #OO-2115 Al
	1	Grease Fitting	1/8x1-1/4" - 67-1/2"
OO-2116	1	Bush.-Brg. Ball	1-1/4xODx1-1/4" B.x2" Lg.
FO2-2121	1	Sprocket-Ctrshaft.	14 T. 3/4" P.x1-1/4" B.
	1	Setscrew	5/16 x 5/16" Allen
NO-2136	1	Ctrshaft.-Sprocket	1-1/4" ODx23-1/4" Lg CRS
	3	Key-Woodruff	Style D
KO-2140	1	Coupling-Shaft	2" ODx1-1/4" B. x 4"
	4	Setscrew	1/2" x 3/8" Allen
KO-2150	1	Chain-Brush Drive	3/4" P. Single 89 Links
KEO-1561	1	Link-Plain	3/4" P. Straight Single
KRO-1561	1	Link-Offset	3/4" P. Offset Single

TRACTOR FRAME

MO-2300	1	Frame-Upper-Tractor	Clutch Shaft Support
	4	Bolt	3/4"x3 1/2" Hex. NC Nut & LW
	4	Bolt	1/2x2" Hex. NC Nut & LW
MO-2310	1	Frame-Lower, Axle	Welded Unit
MO-2311	2	U-Bolt-Frame to Axle	5/8" x 16 OA
	4	Hex. Nut	5/8" Hex. Nut
	4	Lockwasher	5/8" LW
NO-2312	1	Eyebolt-Chain Adj.	1/2 x 9" M.S.
	2	Nut	1/2" Hex. NC
KO-2316	1	Spacer-Pivot Shaft	1-1/2" Px7-1/4" Lg.
	2	Bolt-Frame Tie	5/8x2" Hex. NC Nut & LW
	1	Bolt-Frame Pivot	5/8x3 1/2" Hex. NC Nut & LW
	4	Washer	5/8" Plain Washer
NO-2330	1	Frame, Br. Arm Pivot	Welded Unit
	2	Grease Fitting	1/8" Str. Hyd. Fit.
NO-2345	1	Shaft, Br. Arm Pivot	1-1/2" x 37"
	2	Cotter	3/16 x 2" Cotter Pin



NUMERICAL SEQUENCE LIST OF PARTS

PART NO.	PART NAME	DESCRIPTION	PAGE	QUAN.	WEIGHT LBS.	OZ.	PRICE
AT-1438	Sprocket-Brush End	3/4" P x 45 T Sprocket	28	1	11		\$ 7.30
AT-1449B	Brush Assembly	72" Palmyra Stalk Fibre	28	1	227		55.80
AT-1453	Core-Brush	For 72" Brush	28	1	120		26.15
AT-1454B	Wire Rope-72" Brush	3/8" 6x7 Galv. x 87' lg.	28	1	18		7.20
AT-1455	Segment-Brush Core	Set of 8-2" thick x 72"	28	1	59	8	18.40
AT-1456	Spacer-Core	7-1/8" OD x 2" Pine	28	3	1		.40
AT-1460	Shaft-Brush Core	1-1/4 x 82" CRS	28	1	28	8	3.55
AO-1448B1	Hood-72" Brush	Curved Ends	28	1	82		30.45
FO2-1720	Housing-Gearcase	CI Patt. FO-104A	31	1	29	8	10.15
FO2-1726	Slinger-Grease	22 ga. x 4" OD x 1-1/8" B	31	1		2	.35
FO2-1730	Bearing-Input Shaft	New Departure #7506	31	1		8	2.85
FO2-1731	Washer-Pinion	3/4" Bx1-3/4" OD	31	1		5/8	.25
FO2-1732	Nut-Pinion Retainer	Special-3/4" Castellated	31	1		1	.25
FO2-1734	Gasket-Input Housing	1/32 x 6-1/2" OD Vellumoid	31	2		1/8	.10
FO2-1735	Bearing-Outer	New Departure #87508	31	2	1		6.70
FO2-1736	Sleeve-Bearing Adapter	1-3/4" ODx1-1/4" Bx2"	31	2		8	2.50
FO2-1755	Cover-Top	12 ga. x 2-3/4 x 9-1/4" Sheet	31	1	1		.30
FO2-1756	Gasket-Top Cover	1/32 x 2-3/4 x 9 3/4" Vellumoid	31	1		1/4	.20
FO2-1760	Bearing-Output Shaft-Inner	New Departure #WC-87506	31	1		8	4.95
FO2-1775	Cover-Driven End	CI Patt. #FO-110A	31	1	4	8	7.15
FO2-2121	Sprocket-Countershaft	3/4" P x 14 T x 1-1/4" B Style "B"	36	1	1	8	6.25
KEO-1561	Link-Plain Connecting	3/4" P Single-Straight	29	2		1-1/4	.12

PART NO.	PART NAME	DESCRIPTION	PAGE	QUAN.	LBS.	WEIGHT OZ.	PRICE
KO-1439	Guard-Brush Chain	Welded Unit	28	1	8		2.80
KO-1543	Key-Shifter Clutch	Hy-Pro Key #1010	30	1		1	.12
KO-1575	Jaw-Clutch Shifter Member	Jaw Type-Ball Lock	30	1	1	12	8.40
KO-1590	Ball-Clutch Shift Lock	5/16" Steel Ball	30	1		3/8	.03
KO-1595	Spring-Ball Pressure	5/16" ODx.040 Wire x1-1/4" lg. Comp.	30	1		1/8	.10
KO-1610	Crank-Tractor Starting	Welded	28	1	4	8	5.85
KO-1715	U-Bolt	1/2 x 17" O.A.M.S. Bent	37	1	1		.55
KO-1716	Screw-Gearcase Adj.	3/8 x 2" NC Hex. Capscrew	30	1		1-1/2	.03
KO-1717	Nut-Adj. Screw Lock	3/8" NC Hex. Nut	30	1		1/2	.02
KO-1723	Shaft-Input	1-1/4 x 11" lg. CRS	31	1	7	12	2.70
KO-1727	Washer-Shim	1 1/2" OD x 1-9/64" B x 1/16" thick	31	1		1/8	.30
KO-1733	Housing-Input Shaft	CI Patt. #FO-109	31	1	9	8	4.00
KO-1765	Shaft-Output	1-1/4" OD x 10-15/16" lg. CRS	31	1	7	8	3.30
KO-1771	Washer-Spring Type	1 3/4" OD x 1-1/4" B x 1/16" thick	31	1		1/8	.55
KO-1772	Washer-Spacer	2" OD x 1-17/64" B x 1/4"	31	1		3/8	.30
KO-1773	Sleeve-Spacer	1-1/2" OD x 11 ga x 3-3/16" lg.	31	1		8	.40
KO-1774	Slinger-Grease	22 ga. x 4" OD x 1-17/64" Bore	31	1		2	.35
KO-1780	Cover-Dead End	Welded-Disc and Hub	32	1	4	8	1.75
KO-2015	Chain-Brush Raising	5/16" Straight Link Coil Chain	33	1	3		.70
KO-2065	Pump-Brush Lift .	With Reservoir and Handle	34	1	8	8	13.20
KO-2065-1	Handle-Oil Pump	1/2" Pipe x 12" lg.	34	1		12	.55
KO-2065-2	Cotter Pin- Handle Ret.	1/8 x 1-1/4" lg.	34	1		3/8	.01
KO-2065-3	Knob-Valve	1" OD x 1-1/4" lg. Knurled	34	1		7	1.15
KO-2065-4	Pin-Knob to Stem	1/8" OD x 13/16" lg.	34	1		1/8	.03

PART NO.	PART NAME	DESCRIPTION	PAGE	QUAN.	LBS.	WEIGHT OZ.	PRICE
KO-2065-5	Gasket-Inner Plug	1-5/8" OD x 1 1/4" B x 1/32" thick	34	1		1/8	.12
KO-2065-6	Plug-Pump Base-Inner	1-3/4" OD x 1-1/4" lg.	34	1		8	2.85
KO-2065-7	Stud-Cover Retainer	1/2" OD x 4-7/8" lg.	34	1		5	.20
KO-2065-A8	Cover-Oil Reservoir	CI Patt. #KO2065-A8	34	1		8	1.35
KO-2065-9	Cap Nut-Cover	1/2" NC Hex.	34	1		7/8	.15
KO-2065-10	Plug-Breather and Filler	1/4" Sq. Hd. Pipe-Drilled	34	1		7/8	.25
KO-2065-11	Base-Pump Assembly	Amer. Hyd. #JX-508.5 (#1) Special	34	1	4		7.65
KO-2065-14	Screw-Release	Amer. Hyd. #JX-508.5 #15	34	1		1	.40
KO-2065-15	Nut-Release Packing	Amer. Hyd. #JX-508.5 #16	34	1		1	.25
KO-2065-16	Washer-Release Stem	Amer. Hyd. #JX-508.5 #18	34	2		1	.15
KO-2065-17	Packing-Release Valve	Amer. Hyd. #JX-508.5 #19	34	1		1 1/2	.25
KO-2065-18	Socket-Special Handle	Amer. Hyd. #JX-508.5 #20	34	1		8	1.00
KO-2065-19	Pin-Socket w/Cotter	Amer. Hyd. #JX-508.5 #21	34	1		2	.15
KO-2065-20	Pin-Socket Piston	Amer. Hyd. #JX-508.5 #22	34	1		2	.15
KO-2065-22	Ball-Release Valve	Amer. Hyd. #JX-508.5 #25	34	1		1 1/2	.15
KO-2065-27	Washer-Unit Gasket	Amer. Hyd. #JX-508.5 #34	34	1		1/8	.08
KO-2065-28	Unit-Piston and Housing	Amer. Hyd. #J-151	34	1	1		2.85
KO-2105	Link-Pivot Connecting	3/8 x 2-1/2 x 6" MS	36	2	1		1.95
KO-2140	Coupling-Shaft	2" OD x 1-1/4" B x 4" lg.	36	1	2		3.40
KO-2150	Chain-Final Brush Drive	3/4" P Single x 89 links	36	1	5	8	7.45
KO-2316	Spacer-Pivot Shaft	1-1/2" Pipe x 7-1/4" lg.	36	1		8	.30
KRO-1561	Link-Offset Connecting	3/4" P Single-Offset	29	2		1-3/8	.40
MO-1540	Shaft-PTO Flange to Spro. Shaft	3/4 x 10-1/4" OA with Tongues	30	1	1	8	5.55
MO-1560	Chain-Transfer Drive	3/4" P Single Roller 48 Links	30	1	2	12	4.50
MO-1580	Collar-Sprocket End	1-3/4" OD x 1 1/4" B x 7/16" lg.	30	1		4	1.05

PART NO.	PART NAME	DESCRIPTION	PAGE	QUAN.	LBS.	WEIGHT OZ.	PRICE
MO-1605	Shaft-Clutch and Sprocket	1-1/4 x 13" OA	30	1	6		4.30
MO-2066	Bracket-Pump Mounting	1/4 x 6 x 7" Plate with Studs	33	1	2		1.45
MO-2075	Clip-Hose Anchor	16 ga. x 1-1/4 x 6" Band 13/16" Hole	33	1		2	.25
MO-2300	Frame-Upper Tractor	Clutch Shaft Support	36	1	32		11.40
MO-2310	Frame-Lower Axle	Tubular-Welded Unit	36	1	63		27.60
MO-2311	"U" Bolt-Frame to Axle	5/8 x 16" OA-Bent	36	2	1	8	.85
NO-1505	Pulley-Tractor Fan	CI Patt. #MO-1505	30	1	5		6.55
NO-1520	Flange-Pulley PTO	Flange w/ Slotted Hub	30	1	2		3.70
NO-1530	Bearing-Clutch Shaft	Sealmaster #NP20	30	2	4		8.80
NO-1535	Collar	2" OD x 1-1/4" B x 3/4"	30	1		4	.60
NO-1550	Sprocket-Clutch Hub	3/4" P x 14 T x 1-1/2" B	30	1	1	12	13.00
NO-1550A	Sprocket with Bushing	Parts NO1550 and NO1555	30	1	2		14.10
NO-1555	Bushing-Clutch Hub	1-1/2" OD x 1-1/4" B x 1 1/2" lg.	30	1		4-1/2	.70
NO-1565	Sprocket-Gearcase Drive	3/4" P x 24 T x 1-1/4" B	30	1	2	8	10.95
NO-1606	Shim-Bearing-Chain Adj.	16 ga. x 2 x 6-1/2" Band	30	4		1	.15
NO-1615	Guard-Upper Sprocket	16 ga. x 9 x 16" B A	30	1	2	8	.85
NO-1725	Pinion-Driver	CSt Alloy Patt. #NO-1725	31	1	3		5.10
NO-1770	Gear-Bevel Driven	CSt Alloy Patt. #NO-1770	31	1	8		8.20
NO-2040	Eyebolt-Brush Balance Spring	5/8 x 7" Threaded NC	33	1	1		1.15
NO-2050	Lever-Ram Thrust	Welded Unit	33	1	5		3.00
NO-2055	Hose-Hydraulic Oil Line	1/4" Male IPT Fittings 8' lg.	33	1	2	8	6.75
NO-2056	Nipple	1/4" Std. Pipe x 7" lg.	33	1		4	.10
NO-2057	Coupling	1/4" Std. Pipe Coupling	33	1		1-5/8	.05
NO-2100	Frame-Brush Support	Welded Unit	36	1	88		34.15
NO-2136	Countershaft Sprocket	1-1/4" OD x 23-1/4" lg. CRS	36	1	8		3.45
NO-2312	Eyebolt-Chain Adjusting	1/2 x 9" lg. Threaded N.C.	33	1		8	.70
NO-2330	Frame-Brush Arm Pivot	Welded Unit	36	1	61		26.80
NO-2345	Shaft-Brush Arm Pivot	1-1/2 x 37" lg. MS	36	1	18		4.30

PART NO.	PART NAME	DESCRIPTION	PAGE	QUAN.	WEIGHT LBS.	WEIGHT OZ.	PRICE
OO-1444L	Socket-Brush Bearing LH	CI Patt. #OO-1444	28	1	4	8	1.95
OO-1444R	Socket-Brush Bearing R H	CI Patt. #OO-1444	28	1	4	8	1.95
OO-1445	Cap-Brush Bearing Socket	CI Patt. #OO-1445	28	2	1	4	.60
OO-1448B2	Bracket-Hood Anchor	Drive End-3/8 x 1-1/2 x 13 1/2" MS	28	1	2		.70
OO-1448B3	Bracket-Hood Anchor	Dead End-3/8 x 1-1/2 x 12 1/2" MS	28	1	2		.70
OO-2016	Cold Shut	5/16" Std.	33	1		3	.10
OO-2045	Spring-Brush Balance	1-3/4" OD x 11/32" Wire x 22" lg	33	1	6	8	3.25
OO-2071	Union-Hose Adapter	Eastman Mfg. Co. #961	34	1		2	.45
OO-2110	Cap-Countershaft Ball	CS Patt. #OO-2110-A1	36	1		8	1.05
OO-2115	Ball Only-Countershaft Bearing	CI Patt. #OO-2115-A1	36	1		11	1.20
OO-2115A1	Ball and Bushing	Part #OO-2115 and #OO-2116	36	1	1		2.85
OO-2116	Bushing-Bearing Ball	1-1/2" OD x 1-1/4" B x 2" lg.	36	1		5	1.65
OO-2123	Collar-Clutch Sprocket	1-3/4" OD x 1-1/4" B x 1/2" lg Bronze	30	1		3	.60
TT-1443	Spacer-Sprocket to Bearing	2-1/2" OD x 1-1/4" B x 1/2" lg.	28	1		8	.40
TT-1446	Ball Only-Brush Bearing	CI Patt. #UD-3046	28	2	3	9	1.65
TT-1446A	Ball with Bushing	Parts #TT-1446 and #TT-1446A2	28	2	4	1	3.55
TT-1446A2	Bushing-Bearing Ball	1-1/2 OD x 1-1/4" B x 3" lg. Brz.	28	2		8	1.80
TT-1447	Stud-Socket Adj.	1/2 x 4-1/4" NC Thread MS	28	4		3	.12
TT-1450	End-Core	CI Patt. #E-3050	28	2	10	4	2.80
TT-1451	Fibre-Brush Filler	22" Palmyra Stalk	28	100#	115/Bale		19.20/c
TT-1461	Pin-Core End to Shaft	3/8 x 3" CRS with Cotters	28	2		2	.15
WO-1542	Pin-Tractor Crank	3/8 x 2-1/4" Drill Rod	28	1		1-1/2	.30
XO-2025	Pin-Ram End	1 x 3-1/4" CRS with Cotters	33	2		12	.55
60-2020	Ram-Hyd.-Brush·Lift	Hydreco #154	33	1	9		16.50

"VI"

COMMON SUPPLIES

PART NO.	DESCRIPTION	QUAN.	PRICE
4A22	Machine Bolt, 1/4 x 2-1/2" Sq. Hd.	1	\$.02
6A2	Machine Bolt, 3/8 x 2" Sq. Head	16	.05
4ABO4	Setscrew, Allen, 1/4 x 1/4"	2	.10
5ABO5	Setscrew, Allen, 5/16 x 5/16"	1	.06
5ABO8	Setscrew, Allen, 5/16 x 1/2"	6	.10
6ABO6	Setscrew, Allen, 3/8 x 3/8"	3	.10
8ABO6	Setscrew, Allen, 1/2 x 3/8"	4	.10
2AC	Street El, 1/4" Std. Pipe	2	.10
1AR	Fitting, Hydraulic, Straight, 1/2"	4	.10
4ARA	Fitting, Lincoln, #5013	1	.10
1AS12	Fitting, Hydraulic, 1/8 x 1 1/4 x 67-1/2"	2	.15
4AT2	Staples, 1/2 Wide x 2" lg.	lb.	.10
	Approx. 60 to lb., 55 req. per brush		
8BO6	Setscrew, Square hd. 1/2 x 3/4"	2	.06
5CO6	Capscrew, 5/16 x 3/4" N.C. Hex. Head	6	.02
6C1	Capscrew, 3/8 x 1" N.C. Hex. Head	6	.03
8C1	Capscrew, 1/2 x 1" N.C. Hex. Head	12	.05
10C1	Capscrew, 5/8 x 1" N.C. Hex. Head	4	.05
10C12	Capscrew, 5/8 x 1-1/4" N.C. Hex. Head	2	.05
5CN12	Bolt, 5/16 x 1-1/4" N. C. Hex with Nut	3	.03
6CN1	Bolt, 3/8 x 1" N.C. Hex with Nut	5	.05
6CN22	Bolt, 3/8 x 2-1/4" N.C. Hex with Nut	4	.06
6CN3	Bolt, 3/8 x 3" N.C. Hex with Nut	2	.06
8CN14	Bolt, 1/2 x 1-1/2" N.C. Hex with Nut	4	.10
8CN2	Bolt, 1/2 x 2" N.C. Hex with Nut	8	.10
8CN3	Bolt, 1/2 x 3" N.C. Hex with Nut	2	.10
10CN2	Bolt, 5/8 x 2" N.C. Hex with Nut	2	.15
10CN34	Bolt, 5/8 x 3-1/2" N.C. Hex with Nut	1	.15
12CN24	Bolt, 3/4 x 2-1/2" N.C. Hex with Nut	1	.20
12CN34	Bolt, 3/4 x 3-1/2" N.C. Hex with Nut	4	.25
4HO12	Machine Screw, 1/4 x 3/4" Round Hd.	6	.02
6N	Nut, 3/8" N.C. Hex.	2	.02
8N	Nut, 1/2" N.C. Hex.	12	.02
10N	Nut, 5/8" N.C. Hex	5	.03
6P1	Pin, 3/32 x 1" Cotter	4	.01
8P1	Pin, 1/8 x 1" Cotter	2	.01
8P12	Pin, 1/8 x 1-1/4" Cotter	1	.01
8P14	Pin, 1/8 x 1-1/2" Cotter	1	.01
12P14	Pin, 3/16 x 1-1/2" Cotter	4	.01
12P2	Pin, 3/16 x 2" Cotter	2	.01
6R1	Capscrew 3/8 x 1" N.C. Flat Head	2	.10
8S	Washer, Plain, 1/2"	16	.01
10S	Washer, Plain, 5/8"	5	.02
4W	Lockwasher, 1/4" Std.	7	.01

PART NO.	DESCRIPTION	QUAN.	PRICE
5W	Lockwasher, 5/16" Std.	9	.01
6W	Lockwasher, 3/8" Std.	35	.01
8W	Lockwasher, 1/2" Std.	28	.02
10W	Lockwasher, 5/8" Std.	13	.02
10Y10	Woodruff Key, 5/16 x 1-1/4" Style "D"	6	.05
2Z	Plug, 1/4" Std. Sq. Hd. Pipe	1	.06
4Z	Plug, 1/2" Std. Sq. Hd. Pipe	1	.06
8Z	Plug, 1" Std. Sq. Hd. Pipe	1	.06

SECTION IV
BRUSH FILLING MACHINE

BRUSH FILLING MACHINE

BRUSH FILLING MACHINE ASSEMBLY

1. Support the two end stands BF-1005 and BF-1010 to hold them vertical. The gusset plates at the junction of the floor and vertical members should be toward the front.

2. Bolt the lower tie channel BF2-1025 against the back of the vertical stand legs and the upper tie channel BF2-1030 against the back of the upper end of the vertical legs.

3. Bolt the tie angle BF2-1020 across the rear of the horizontal members of the stands.

4. Mount the drum shaft BF2-1105 against the front of the vertical legs with one BF2-1120 bearing at each end of the shaft with the keyway end toward the left.

5. Install the brake band wheel BF-1125 on the keyed end of the shaft. Tighten the setscrew.

6. Slip the brake band BF-1150 over the projecting end of the pin in the left hand stand BF-1010 with the free end toward the right facing the end of the machine. Remove the nut and spring BF-1165 from the threaded bolt and slip the bolt through the twisted lug on the stand. Then slip the spring over the eyebolt and replace the nut. Finally, place the washer and cotter key which retain the band in place on the anchor pin.

7. On the inner projecting end of this pin remove the end cotter pin and one washer, then slip on the short pawl BF-1225 and the long pawl BF-1230 after which the washer and cotter pin are replaced.

8. Determine the location of the adjustable vertical member BF-1040 by the length of the brush to be filled. This member is clamped to the upper and lower tie channels by means of straps BF-1045 having two bolts through each.

9. Grease the drum shaft bearings before starting to operate the machine.

FILLING THE BRUSH

PREPARATION OF THE BRUSH

1. When the bristles of the brush have been worn down to to within a few inches of the brush core (3 to 6 inches, depending on the quality of the work to be done) the brush must be refilled.

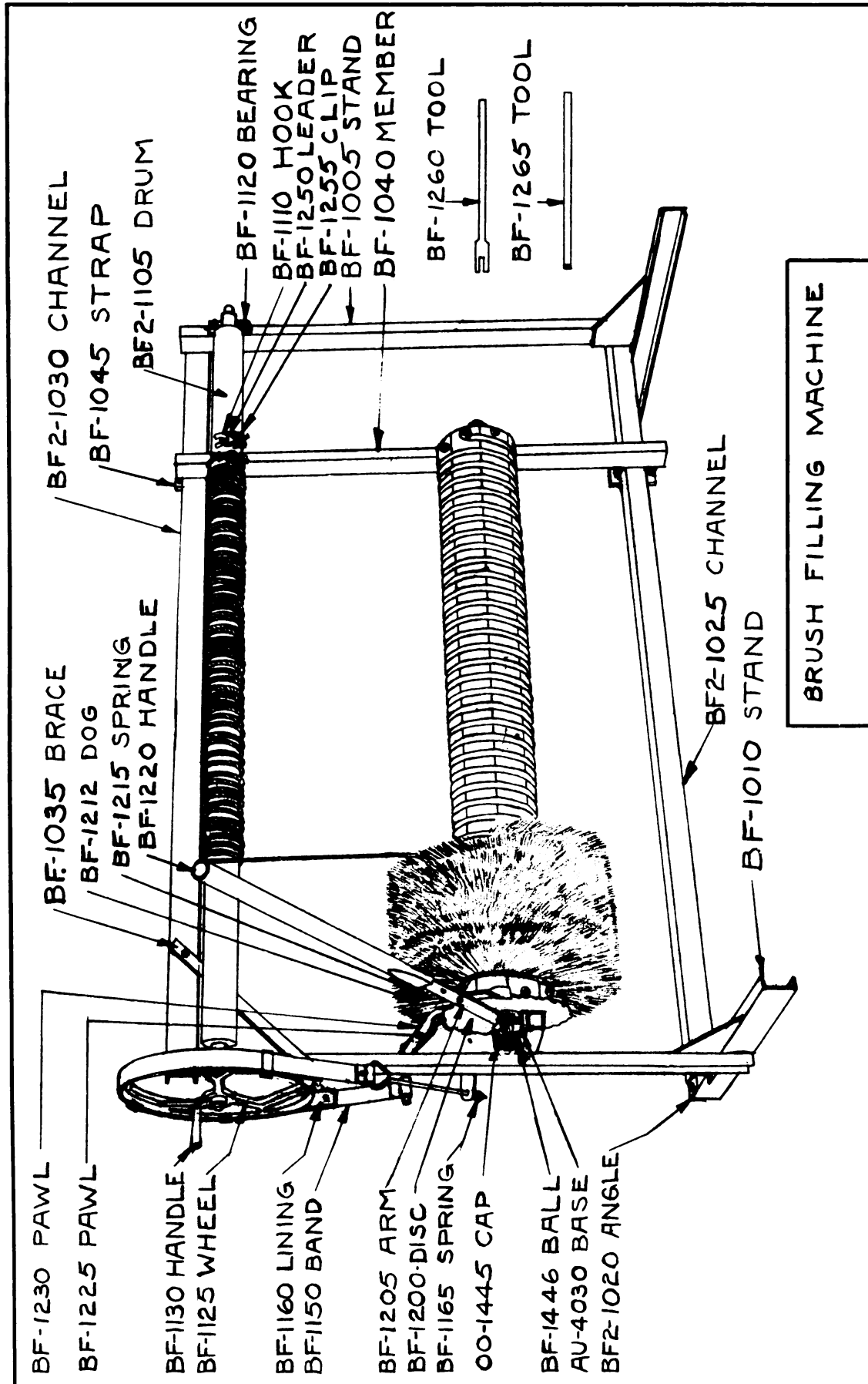
2. To remove the brush from the sweeper, remove the cap-screws holding cap OO-1445 to socket OO-1444 and remove the connecting link in the final drive chain KO-2150 thus releasing the chain and permitting the brush to be dropped out of the socket. If the driven sprocket AT-1438 is to be used on another brush it must be removed but may stay in place on the core without interfering with the refilling.

3. The old filler material must now be removed from the brush. To do so, the wire rope is loosened at the end next the sprocket, if the sprocket is not removed, and several feet of rope pulled loose. By giving the rope a short sharp pull while restraining the brush shaft ends the filler and rope will be loosened from the core. This is continued until all the rope except the last turn at the outside of the groove is loosened.

4. Now inspect the wire rope for weak spots and if replacing is required the old rope is completely removed, the new wire rope stapled to the core with one turn alongside the first groove as in the case of the old rope. Be sure that the grooves are clean before proceeding.

5. Bolt the ratchet disc BF-1200 to the end of the core to which the wire rope is attached with the open end of the notches in the disc facing counter-clockwise.

6. Slip the lever arm and dog assembly BF-1205 over the end of the shaft next the disc and slip one bearing ball BF-1446 over each end of the shaft. Then lay the assembly into the pillow block bases AU-4030 and attach caps OO-1445 with the bolts provided.



7. The core is now rotated by hand pulling the top of the core toward the operator until the groove is filled from end to end with the wire rope. If a new wire rope is used, it should be cut off at the floor level with the groove completely filled. This gives about three feet surplus to permit stapling one turn alongside the last ring of fibre.

8. Hook BF-1110 is hooked in the hole nearest the end of the core and using the wire rope leader to extend the end of the brush rope, the latter is attached to the leader and thus to the hook with wire rope clips.

9. The wire rope is now rewound on the drum using the crank handle in the brake wheel BF-1125 until all but the attached end of the rope is unwound from the core.

10. The brake band is then tightened by turning the nut on the end of eyebolt BF-1155-3 until the brake band wheel can no longer be turned by hand when grasping the spokes with both hands and attempting to turn it clockwise.

11. The last step before starting to refill the core is to place about 120 pounds of brush fibre (for a 6 ft. brush) in a tank of boiling water for a minimum of ten minutes. (One bale of fibre weighs about 112 pounds.)

FILLING THE BRUSH

12. Have a man grasp the extension handle BF-1120 and place about an armful of steamed fibre on a stand or table slightly to the right of the wire rope running from core to the drum.

13. Take a bunch of fibre as large as can conveniently be held in both hands and hook it behind the wire rope then pulling it down against the brush core while pulling the ends toward you forming a "U" shape. Signal the assistant to pull down on the handle

while spreading the fibre along the new point of contact between the wire rope and the core until all the material has been disposed of. With a little practice and teamwork, it will be easily possible to distribute the fibre easily, leaving a minimum number of gaps or overfilled spots. This procedure is continued until the entire brush is filled to the last full depth groove.

14. The core is then given one complete revolution more while stapling the surplus length of wire rope against the fibre in the last groove to hold it compact and upright.

15. The wire rope clip holding the end to the leader is then removed and the remaining end of the rope stapled to the core. As in the case of the beginning, about ten to fifteen staples should be used to retain the wire rope at the end.

16. To insure holding the fibre in place after drying and during use, it is necessary to drive about twenty to thirty additional staples along the entire length of the brush. Two tools are furnished for this purpose. BF-1260 is used to start the staples by inserting a staple into its forked end, locating a thin spot in the brush to permit spotting the staple over the rope and starting the staple into the core by striking the end with a hammer. Tool BF-1265 is used for setting the staple after it is started. Staples should be spaced as uniformly as possible across the brush but are more conveniently located at points along the brush where the filling is not as thick as at other points.

17. When stapling is completed, the brush is removed from the machine by reversing the sequence of operations 5 and 6.

NOTE: Remember to soak the brush before using and while in use to prolong the length of useful life of the fibre.

MODEL BF2" BRUSH FILLER PARTS LIST

PART NO.	NO. REQ.	PART NAME	DESCRIPTION
BF-1005	1	Stand-R.H. Leg	4" Chan. 6' High
BF-1010	1	Stand-L.H. Leg	4" Chan. 6' High
16P14	1	Cotter-Band Retainer	1/4" x 1-1/2"
16S	1	Washer-Dog Retainer	1" Wrought
12P14	2	Cotter	3/16" x 1-1/2"
BF2-1020	1	Tie Angle-Stand Leg	2-1/2" x 2 1/2" x 5/16" x 130"
BF2-1025	1	Tie Channel-Lower	4" x 5.4# x 133-1/2"
BF2-1030	1	Tie Channel-Upper	4" x 5.4# x 133-1/2"
BF-1035	1	Brace-Upper Frame	1/2" x 2" x 37-1/2"
8A12	10	Bolt-Frame	1/2" x 1-1/2" Mach. Bolt
BF-1040	1	Vertical Adj. Member	4" x 5.4# x 72"
BF-1045	2	Strap-Ver. Mem. Clamp	1/2" x 1 1/2" x 6-1/2"
8A3	4	Bolt	1/2" x 3" Mach. Bolt
AU-4030	2	Base-Pillow Block	C.I. Patt. UD-2044B
8A32	4	Bolt	1/2" x 3-1/2" Mach. Bolt.
BF-1446	2	Ball-Pillow Block	C.I. Patt. UD-3046
1AS	2	Grease Fitting	1/8" Str. Hydraulic
OO-1445	2	Cap-Bearing Ball	C.I. Patt. OO-1445
6A3	2	Bolt	3/8" x 3" Mach. Bolt
BF2-1105	1	Drum-Wire Rope	4" Pipe 128" & shafts
BF-1110	1	Hook-Rope Anchor	1/2" x 8-1/2" Formed
BF2-1120	2	Bearing-Drum Shaft	C.I. Patt. BF2-1120
BF-1125	1	Wheel-Brake & Crank	C.I. Patt. PEP
5B1	2	Setscrew	5/16 x 1" Sq. Head
10Y10	2	Key-Wheel to shaft	Style D Woodruff
BF-1130	1	Handle-Crank	C.I. Patt. SH-4
BF-1131	1	Bolt-Handle Retainer	1/2" x 4-1/2" Sq. Head
8AU	1	Wingnut-Bolt Adjust.	1/2"-13 Wingnut
8S	1	Washer	1/2" Wrought
BF-1160	1	Lining Only	1/8" x 1-1/2" x 58"
BF-1161	21	Rivets	#9 Split
BF-1165	1	Spring-Band Tension	1" OD x 1/8" W x 7 Coils
BF-1200	1	Ratchet Disc	3/16" x 16" Notched
BF-1205	1	Lever Arm-Handle	1/2" x 2-1/2" x 27"
BF-1210	1	Retainer-Lever	3/8" x 1 1/4" x 8-1/2" Off.
BF-1211	1	Bolt-Special	With Hook & Nut
BF-1212	1	Dog-Ratchet Lever	3/8" x 1-1/2" x 14"
BF-1213	1	Bushing-Dog	3/8" Std. x 7/16" Lg.
BF-1215	1	Spring-Ratchet-Dog	1/2" OD x 1/16" W x 3"
BF-1220	1	Handle	1-1/2" Pipe x 44"
BF-1225	1	Pawl-Short	Welded Unit
BF-1230	1	Pawl-Long	Welded Unit
BF-1250	1	Leader-Wire Rope	3/8" x 42" W/clips
BF-1255	1	Clip-Wire Rope	3/8" M.I.
BF-1260	1	Tool-Staple Start.	Fork end 5/8" x 18"
BF-1265	1	Tool-Staple Set.	Cup end 5/8" x 18"

